WORCESTER **COUNTRY CLUB BOULEVARD** TITLE SHEET & INDEX SHEET 1 OF 24

# CITY OF WORCESTER DEPARTMENT OF TRANSPORTATION AND MOBILITY

PLAN AND PROFILE OF

COMPLETE STREETS IMPROVEMENTS COUNTRY CLUB BOULEVARD

IN THE CITY OF

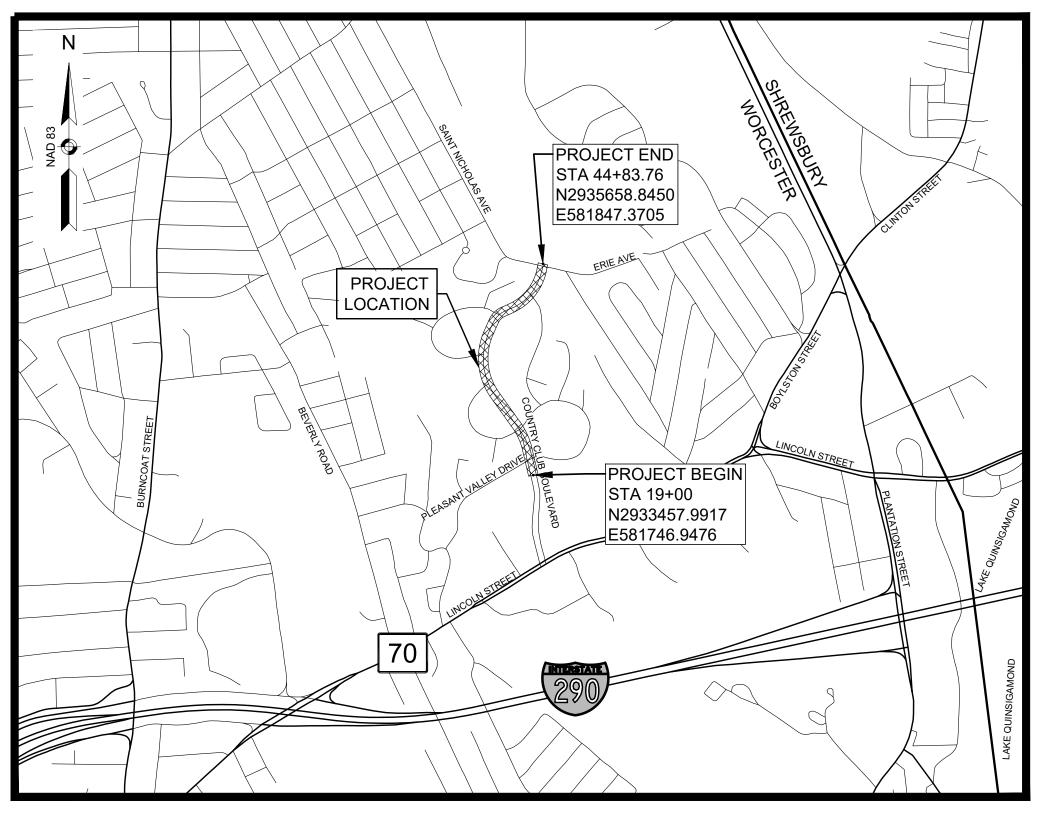
WORCESTER WORCESTER COUNTY

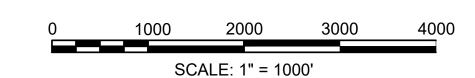
WORCESTER DEPARTMENT OF PUBLIC WORKS & PARKS STANDARD SPECIFICATIONS & DETAILS DATED AUGUST 29, 2024 WILL GOVERN.

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# FINAL DESIGN





LENGTH OF PROJECT = 2583.76 FEET = 0.490 MILES

#### DESIGN DESIGNATION (COUNTRY CLUB BLVD)

**DESIGN SPEED** 25 MPH LOCAL FUNCTIONAL CLASSIFICATION

07/09/25	FINAL DESIGN	2
06/11/25	FINAL DESIGN	1
02/27/25	CONCEPT	0
DATE	DESCRIPTION	REV#





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www.TheEngineeringCorp.com

JMD	JD/JDD	July 9, 2025
CHECKED BY:  JDD	DRAWN BY: JD	TEC PROJECT NO. T1581

GENERAL S	SYMBOLS		TRAFFIC SYI	MBOLS		ABBRE\	/IATIONS	WORCESTER — COUNTRY CLUB BOULEVAR	
EXISTING	PROPOSED	DESCRIPTION	<b>EXISTING</b>	PROPOSED	<u>DESCRIPTION</u>	GENERAL			LEGEND & ABBREVIATIONS
☐ JB	JB	JERSEY BARRIER	<b>Ø</b> 1	<b>Ø</b> 1	CONTROLLER PHASE ACTUATED	AADT	ANNUAL AVERAGE DAILY TRAFFIC		SHEET 2 OF 24
⊞ ⊕ ⊕ CB	СВ	CATCH BASIN	[5]			ABAN ADJ	ABANDON ADJUST		
<u> </u>	⊕ FP	CATCH BASIN CURB INLET FLAG POLE			TRAFFIC SIGNAL HEAD (SIZE AS NOTED)	APPROX.	APPROXIMATE		
G GP	G GP	GAS PUMP	(의 		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)	A.C.	ASPHALT CONCRETE		
□ MB	□ МВ	MAIL BOX			·	ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE	<u> </u>	
		POST SQUARE	72	7	VIDEO DETECTION CAMERA	BIT. BB	BITUMINOUS BITUMINOUS CONCRETE		
⊕ WELL	O ⊕ WELL	POST CIRCULAR WELL		<b>&gt;=</b>	MICROWAVE DETECTOR	BC	BOTTOM OF CURB		
- EHH	- EHH	ELECTRIC HANDHOLE	$\oplus$	•	PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE	BD.	BOUND	ABBRE'	VIATIONS (cont.)
$\circ$	0	FENCE GATE POST	*	*	EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT	BL	BASELINE	GENERAL	,
O GG	O GG	GAS GATE	<	<b>—</b>	VEHICULAR SIGNAL HEAD	BLDG BM	BUILDING BENCHMARK	PVC	= POINT OF VERTICAL CURVATURE
◆ BHL # ◆ MW #	◆ BHL # ◆ MW #	BORING HOLE MONITORING WELL	4<	<b></b>	VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED	BO	BY OTHERS	PVI	POINT OF VERTICAL INTERSECTION
TP #	₩ IVIV# TP#	TEST PIT				BOS	BOTTOM OF SLOPE	PVT	POINT OF VERTICAL TANGENCY
φ "	φ	HYDRANT	←	<b>—</b>	FLASHING BEACON	BR.	BRIDGE	PVMT	PAVEMENT NATER MAX
*	*	LIGHT POLE			PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)	CB CBCI	CATCH BASIN CATCH BASIN WITH CURB INLET	PWW R	PAVED WATER WAY RADIUS OF CURVATURE
□ CO.BD.		COUNTY BOUND	☑ RRSG	☑ RRSG	RAILROAD SIGNAL	CC	CEMENT CONCRETE	R&D	REMOVE AND DISPOSE
	6	GPS POINT CABLE MANHOLE		•	SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)	CCM	CEMENT CONCRETE MASONRY	RCP	REINFORCED CONCRETE PIPE
(D)	© (i)	DRAINAGE MANHOLE	·—	€ 20'	MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)	CEM	CEMENT	RD	ROAD
E	Ē	ELECTRIC MANHOLE			HIGH MAST POLE OR TOWER	CID	CURB INLET	RDWY REM	ROADWAY REMOVE
(G)	<b>©</b>	GAS MANHOLE				CIP CLF	CAST IRON PIPE CHAIN LINK FENCE	RET	RETAIN
M	<u>M</u>	MISC MANHOLE			SIGN AND POST (2 POSTS)	CL	CENTERLINE	RET WALL	RETAINING WALL
(S)	(S) (T)	SEWER MANHOLE TELEPHONE MANHOLE	00	00	SIGN AND POST (2 POSTS)	CMP	CORRUGATED METAL PIPE	ROW	RIGHT OF WAY
(W)	<b>⊛</b>	WATER MANHOLE		<del>X</del> <sup>20'</sup> ●	MAST ARM WITH LUMINAIRE	CSP	CORRUGATED STEEL PIPE	RR R&R	RAILROAD REMOVE AND RESET
■ MHB	■ MHB	MASSACHUSETTS HIGHWAY BOUND		-	OPTICAL PRE-EMPTION DETECTOR	CO. CONC	COUNTY CONCRETE	R&R R&S	REMOVE AND STACK
- MON		MONUMENT		$\bowtie$	CONTROL CABINET, GROUND MOUNTED	CONT	CONTINUOUS	RT	RIGHT
□ SB		STONE BOUND TOWN OR CITY BOUND			CONTROL CABINET, POLE MOUNTED	CONST	CONSTRUCTION	SB	STONE BOUND
■ IB		TRAVERSE OR TRIANGULATION STATION				CR GR	CROWN GRADE	SHLD SMH	SHOULDER SEWER MANHOLE
→ TPL or GUY	→ TPL or GUY	TROLLEY POLE OR GUY POLE			FLASHING BEACON CONTROL AND METER PEDESTAL	DHV	DESIGN HOURLY VOLUME	ST	STREET
o HTP		TRANSMISSION POLE			LOAD CENTER ASSEMBLY	DI DIA	DROP INLET DIAMETER	STA	STATION
-6- UFB	-∳- UFB	UTILITY POLE W/ FIREBOX			PULL BOX 12"x12" (OR AS NOTED)	DIP	DUCTILE IRON PIPE	SSD	STOPPING SIGHT DISTANCE
-}- UPDL	-∳- UPDL	UTILITY POLE WITH DOUBLE LIGHT			ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)	DW	STEADY DON'T WALK - PORTLAND ORANGE	SHLO	STATE HIGHWAY LAYOUT LINE
-δ- ULT -o- UPL	-& ULT -⊶ UPL	UTILITY POLE W / 1 LIGHT UTILITY POLE		========	= TRAFFIC SIGNAL CONDUIT	DWP	DETECTABLE WARNING PANEL	SW T	SIDEWALK TANGENT DISTANCE OF CURVE/TRUCK %
0	O OF L	BUSH				DWY	DRIVEWAY ELEVATION	TAN	TANGENT
•SIZE & TYPE		TREE				EMB	EMBANKMENT	TEMP	TEMPORARY
0		STUMP				EOP	EDGE OF PAVEMENT	TC	TOP OF CURB
• WG	o WC	SWAMP / MARSH				EXIST (or EX)		TOS TRANS	TOP OF SLOPE TRANSITION
• PM	<ul><li>WG</li><li>PM</li></ul>	WATER GATE PARKING METER				EXC	EXCAVATION COVER	TYP	TYPICAL
		- OVERHEAD CABLE/WIRE				F&C F&G	FRAME AND COVER FRAME AND GRATE	UP	UTILITY POLE
						FDN.	FOUNDATION	VAR	VARIES
_100		- CONTOURS (ON-THE-GROUND SURVEY DATA)				FLDSTN	FIELDSTONE	VERT VC	VERTICAL VERTICAL CURVE
<u></u>		- CONTOURS (PHOTOGRAMMETRIC DATA) - UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)				GAR	GARAGE	WG	WATER GATE
		- UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)	PAVEMENT N	MARKINGS SY	'MBOLS	GC GD	GRANITE CURB GROUND	WIP	WROUGHT IRON PIPE
		- UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)	EXISTING	PROPOSED	DESCRIPTION	GG	GAS GATE	WM	WATER METER/WATER MAIN
		- UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)	<u> Littorinto</u>	<u> </u>		GI	GUTTER INLET	X-SECT	CROSS SECTION
		- UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)	Alliv	<b>1</b>	PAVEMENT ARROW - WHITE	GIP	GALVANIZED IRON PIPE		
		- UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER) BALANCED STONE WALL	ONLY	ONLY	LEGEND "ONLY" - WHITE	GRAN	GRANITE		
		GUARD RAIL - STEEL POSTS		SL	STOP LINE - 12"	GRAV GRD	GRAVEL GUARD	TRAFFI	C SIGNAL ABBREVIATIONS
		- GUARD RAIL - WOOD POSTS		cw	CROSSWALK	HDW	HEADWALL	CAB	CABINET
<del>IIII</del>	- <del>- I - I - I</del>	GUARD RAIL - DOUBLE FACE - STEEL POSTS		SWL	SOLID WHITE LINE - 4"	HMA	HOT MIX ASPHALT	CCVE	CABINET CLOSED CIRCUIT VIDEO EQUIPMENT
B		- GUARD RAIL - DOUBLE FACE - WOOD POSTS		SYL	SOLID YELLOW LINE - 4"	HOR	HORIZONTAL	DW	STEADY UPRAISED HAND
X	x	- CHAIN LINK OR METAL FENCE - WOOD FENCE		DIA#		HYD INV	HYDRANT INVERT	FDW	FLASHING UPRAISED HAND
· c::x::x::x::x::x::x::x::x		- WOOD FENCE - SEDIMENT BARRIER		BWL	BROKEN WHITE LINE - 4"	JCT	JUNCTION	FR FRL	FLASHING CIRCULAR RED FLASHING RED LEFT ARROW
· (ZZ)(ZZ)(ZZ)(ZZ)(ZZ)(ZZ)(ZZ)		· COIR LOG SEDIMENT BARRIER		BYL		L	LENGTH OF CURVE	FRR	FLASHING RED RIGHT ARROW
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				<u>DWL</u>	DOTTED WHITE LINE - 4"	LB	LEACH BASIN	FY	FLASHING CIRCULAR YELLOW
				<u>DYL</u>	DOTTED YELLOW LINE - 4"	LP	LIGHT POLE	FYL	FLASHING YELLOW LEFT ARROW
		<ul> <li>TOP OR BOTTOM OF SLOPE</li> <li>LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY</li> </ul>		DWLEx	DOTTED WHITE LINE EXTENSION - 4"	LT MAX	LEFT MAXIMUM	FYR G	FLASHING YELLOW RIGHT ARROW
	_	BANK OF RIVER OR STREAM				MB	MAILBOX	G GL	STEADY CIRCULAR GREEN STEADY GREEN LEFT ARROW
	_	BORDER OF WETLAND		DBWL	DOTTED YELLOW LINE EXTENSION - 4"	MH	MANHOLE	GR	STEADY GREEN RIGHT ARROW
	_	100 FT WETLAND BUFFER			DOUBLE WHITE LINE - 4"	MHB	MASSACHUSETTS HIGHWAY BOUND	GSL	STEADY GREEN SLASH LEFT ARROW
	_	200 FT RIVERFRONT BUFFER		DBYL	DOUBLE YELLOW LINE - 4"	MIN	MINIMUM MILL & OVERLAY	GSR	STEADY GREEN SLASH RIGHT ARROW
		– STATE HIGHWAY LAYOUT – TOWN OR CITY LAYOUT		***	BIKE	M&O NIC	MILL & OVERLAY NOT IN CONTRACT	GV OI	STEADY GREEN VERTICAL ARROW OVERLAP
		- COUNTY LAYOUT		111111	ELEPHANT FEET	NO.	NUMBER	PBN	PEDESTRIAN PUSH BUTTON
		- RAILROAD SIDELINE		····	RAISED ELEMENT	PC	POINT OF CURVATURE	PED	PEDESTRIAN
	_	TOWN OR CITY BOUNDARY LINE			. U OLD LLLINEITI	PCC	POINT OF COMPOUND CURVATURE	PTZ	PAN, TILT, ZOOM
—— P————		PROPERTY LINE OR APPROXIMATE PROPERTY LINE				PCR P.G.L.	PEDESTRIAN CURB RAMP PROFILE GRADE LINE	K Pl	STEADY CIRCULAR RED STEADY RED LEFT ARROW
		- EASEMENT				P.G.L. Pl	PROFILE GRADE LINE POINT OF INTERSECTION	RL RR	STEADY RED LEFT ARROW  STEADY RED RIGHT ARROW
		SILT SACK IN CATCH BASIN				POC	POINT ON CURVE	TR SIG	TRAFFIC SIGNAL
	<del>                                    </del>					POT	POINT ON TANGENT	TSC	TRAFFIC SIGNAL CONDUIT
		CLIDDING CLIDVATUDE				PRC	POINT OF REVERSE CURVATURE	W	STEADY WALKING PERSON
	<b>C2</b>	CURBING CURVATURE							
	<u>C2</u>	CURBING CURVATURE  PEDESTRIAN CURB RAMP # (SEE CONSTRUCTION DETAILS)				PROJ	PROJECT	Y VI	STEADY CIRCULAR YELLOW
	<b>C2</b>							Y YL	

#### **CONSTRUCTION NOTES:**

EXISTING CONDITIONS IS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY HANCOCK ASSOCIATES IN DECEMBER 2024.

HORIZONTAL DATUM = NAD83 (MASSACHUSETTS STATE PLANE COORDINATES) VERTICAL DATUM = NAVD88

- UNDERGROUND UTILITIES SHOWN HEREON ARE COMPILED FROM FIELD LOCATIONS OF STRUCTURES AND FROM LOCATIONS OF UNDERGROUND UTILITIES PROVIDED BY THE CITY OF WORCESTER. OTHER UNDERGROUND UTILITIES MAY EXIST. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION, SIZE & ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK AND TO CONTACT "DIG-SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR CONSTRUCTION.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL CONTACT DIGSAFE (1-888-DIGSAFE) A MINIMUM OF 72 HOURS PRIOR TO ANY CONSTRUCTION TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- 5. ALL MUNICIPALLY OWNED UTILITY STRUCTURES (CATCH BASINS, DRAIN MANHOLES, WATER GATES, ETC.) SHALL BE ADJUSTED BY THE CONTRACTOR TO FINISHED GRADE UNLESS DIRECTED OTHERWISE.
- ALL PRIVATELY OWNED UTILITY STRUCTURES (GAS GATES, ELECTRIC /TELEPHONE MANHOLES, ETC.) SHALL BE ADJUSTED TO FINISHED GRADE BY THE PRIVATE UTILITY COMPANY, UNLESS DIRECTED OTHERWISE. THE CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY COMPANIES FOR THE ALTERATION AND ADJUSTMENT, AS NECESSARY.
- PROPOSED DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 1.0% (MINIMUM) UNLESS OTHERWISE NOTED.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- 9. ALL DISTURBED AREAS OUTSIDE THE CURBLINE AND INSIDE OF THE APPROXIMATE LIMIT OF GRADING SHALL BE STABILIZED WITH 4" LOAM AND SEED, UNLESS OTHERWISE NOTED.
- 10. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R), AS APPROVED BY THE ENGINEER.
- 11. THE TERM "MEET EXIST" OR "MEET EX" MEANS TO MEET BOTH THE EXISTING ALIGNMENT AND ELEVATION.
- 12. ALL EXISTING TREES WITHIN THE PROJECT LIMITS SHALL BE RETAINED AND PROTECTED WITH TREE PROTECTION UNLESS INDICATED OTHERWISE ON THE DRAWINGS. ALL PROVIDED DIMENSIONS REFER TO THE DIAMETER AT BREAST HEIGHT.
- 13. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" (EXCLUDING THE WIDTH OF CURB) SHALL BE MAINTAINED PAST ALL OBSTRUCTIONS (UTILITY POLES, LIGHT POLES, SIGNS, MAILBOXES, ALONG DRIVEWAY OPENINGS, ETC.).
- 14. DETECTABLE WARNING PANELS ARE REQUIRED ON ALL PROPOSED PEDESTRIAN CURB RAMPS AND SHALL BE INSTALLED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARDS.
- 15. IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE, OR OTHER "SURFACE" TYPE STRUCTURE THAT IS NOT CALLED OUT TO BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING (IF RECIPROCAL OR WITHIN PROJECT LIMITS) ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOP MOST SURFACES OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE FINISHED GRADE.
- 16. IN AREAS OF EXISTING ROADWAY / SIDEWALK WHERE LOAM AND SEED IS PROPOSED, THE CONTRACTOR SHALL REMOVE EXISTING ROADWAY / SIDEWALK AND SUBBASE, AND REPLACE WITH SUITABLE EXCAVATED MATERIAL AND PROPOSED 4" LOAM AND SEED TO MEET FINAL GRADE
- 17. PRIOR TO ANY LAND DISTURBANCE, CONTRACTOR SHALL INSTALL INLET PROTECTIONS DEVICES AND GUTTER INLET PROTECTION DEVICES IN ALL DOWNGRADIENT CATCH BASINS OR AS SHOWN ON THE APPROVED PLANS. WHERE NEW STRUCTURES ARE INSTALLED, INLET PROTECTION DEVICES SHALL BE INSTALLED IMMEDIATELY. CONTRACTOR SHALL INSPECT INLET PROTECTION DEVICES AFTER SIGNIFICANT STORM EVENTS AND REMOVE ANY ACCUMULATED SEDIMENT / DEBRIS THAT REACHES 1/2 THE HEIGHT OF THE INLET PROTECTION DEVICE. CONTRACTOR SHALL REPAIR/REPLACE ANY INLET PROTECTION DEVICE. WHEN NECESSARY.
- 18. DISTURB AREAS REMAINING IDLE FOR MORE THAN 14 DAYS SHALL BE STABILIZED.
- 19. ALL EXISTING PAVEMENT MARKINGS ALONG COUNTRY CLUB BOULEVARD SHALL BE REMOVED.
- 20. ALL PROPOSED CURBING SHALL BE GRANITE CURBING. WHERE GRANITE CURBING MEETS THE EXISTING BITUMINOUS CONCRETE CURB. A FOUR (4) FOOT MINIMUM CURB TRANSITION OF HOT MIX ASPHALT (HMA) SHALL BE PLACED TRANSITIONING FROM GRANITE CURBING TO THE EXISTING BITUMINOUS CONCRETE

#### **SURVEY NOTES:**

- 1. THE HORIZONTAL DATUM FOR THIS SURVEY IS THE MASSACHUSETTS COORDINATE SYSTEM, NAD 1983, MAINLAND ZONE. THE VERTICAL DATUM FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). SAID DATUMS WERE ESTABLISHED VIA GPS OBSERVATIONS UTILIZING REALIZATION NAD83(2011) AND GEOID 12A.
- 2. THE LIMIT OF BORDERING VEGETATED WETLANDS SHOWN HEREON WAS DELINEATED BY OTHERS AND LOCATED VIA FIELD SURVEY BY HANCOCK ASSOCIATES.
- 3. THIS PLAN IS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY HANCOCK ASSOCIATES IN DECEMBER 2024.
- 4. ABUTTING PROPERTY LINES HAVE BEEN COMPILED FROM RECORD INFORMATION.
- 5. UNDERGROUND UTILITIES SHOWN HEREON ARE COMPILED FROM FIELD LOCATIONS OF STRUCTURES AND FROM LOCATIONS OF UNDERGROUND UTILITIES PROVIDED BY THE CITY OF WORCESTER. OTHER UNDERGROUND UTILITIES MAY EXIST. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION, SIZE & ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK AND TO CONTACT "DIG-SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION. DEMOLITION OR CONSTRUCTION.

**PAVEMENT NOTES** 

WORCESTER **COUNTRY CLUB BOULEVARD GENERAL NOTES SHEET 3 OF 24** 

PROPOSED FULL DEPTH PAVEMENT OVER MILL

SURFACE: 1 ½" SUPERPAVE SURFACE COURSE 9.5MM LEVEL 2 OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5MM LEVEL 2 OVER

VARIES (MAX 4") SUPERPAVE BASE COURSE 19MM LEVEL 2 OVER

1-1/2" GRINDING AND MILLING

PROPOSED FULL DEPTH PAVEMENT GREATER THAN 4' WIDE

SURFACE:  $1\frac{1}{2}$  SUPERPAVE SURFACE COURSE 9.5MM LEVEL 2 OVER

2" SUPERPAVE INTERMEDIATE COURSE 12.5MM LEVEL 2 OVER

4" SUPERPAVE BASE COURSE 19MM LEVEL 2 OVER

SUBBASE: 4" DENSE GRADED CRUSHED STONE

8" GRAVEL BORROW, TYPE b

PROPOSED FULL DEPTH PAVEMENT LESS THAN 4' WIDE

SURFACE:  $1\frac{1}{2}$ " SUPERPAVE SURFACE COURSE 9.5MM LEVEL 2 OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5MM LEVEL 2 OVER

BASE: 6" CLASS B CONCRETE (3500 PSI, 1 ½", 520) OVER

SUBBASE: 8" GRAVEL BORROW, TYPE b

PROPOSED CEMENT CONCRETE SIDEWALK

SURFACE: 4" CEMENT CONCRETE (AIR ENTRAINED, 4000 PSI, 3/4", 610) OVER

BASE: 8" GRAVEL BORROW, TYPE b

PROPOSED PEDESTRIAN CURB RAMPS

SURFACE: 6" CEMENT CONCRETE (AIR ENTRAINED, 4000 PSI, 3/4", 610) OVER

8" GRAVEL BORROW, TYPE b

PROPOSED HMA SIDEWALK/WALK

SURFACE: 1" SUPERPAVE SURFACE COURSE 9.5MM LEVEL 2 OVER

1" SUPERPAVE INTERMEDIATE COURSE 12.5MM LEVEL 2 OVER

BASE: 8" GRAVEL BORROW, TYPE b

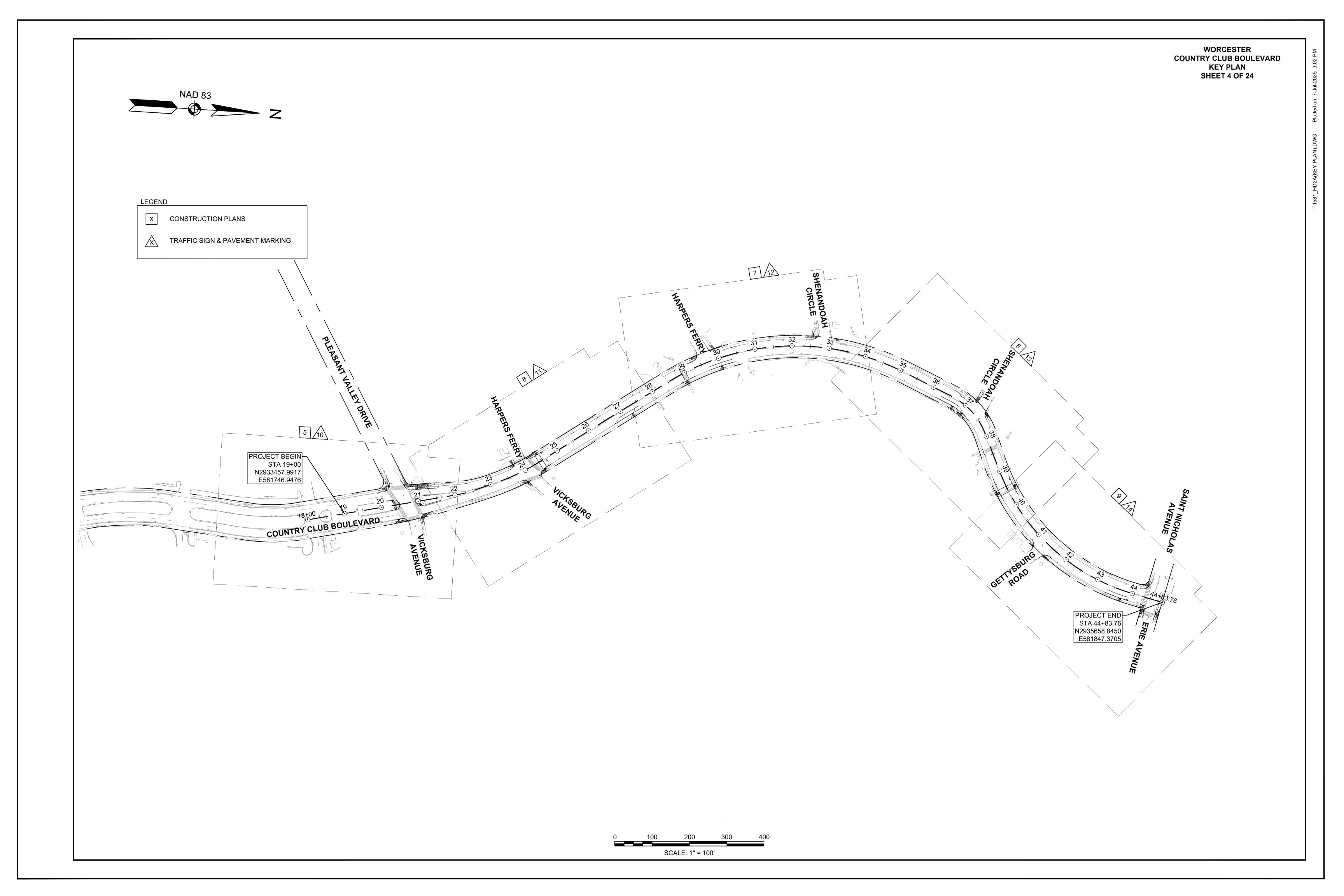
PROPOSED PERMANENT PAVEMENT TRENCH PATCH

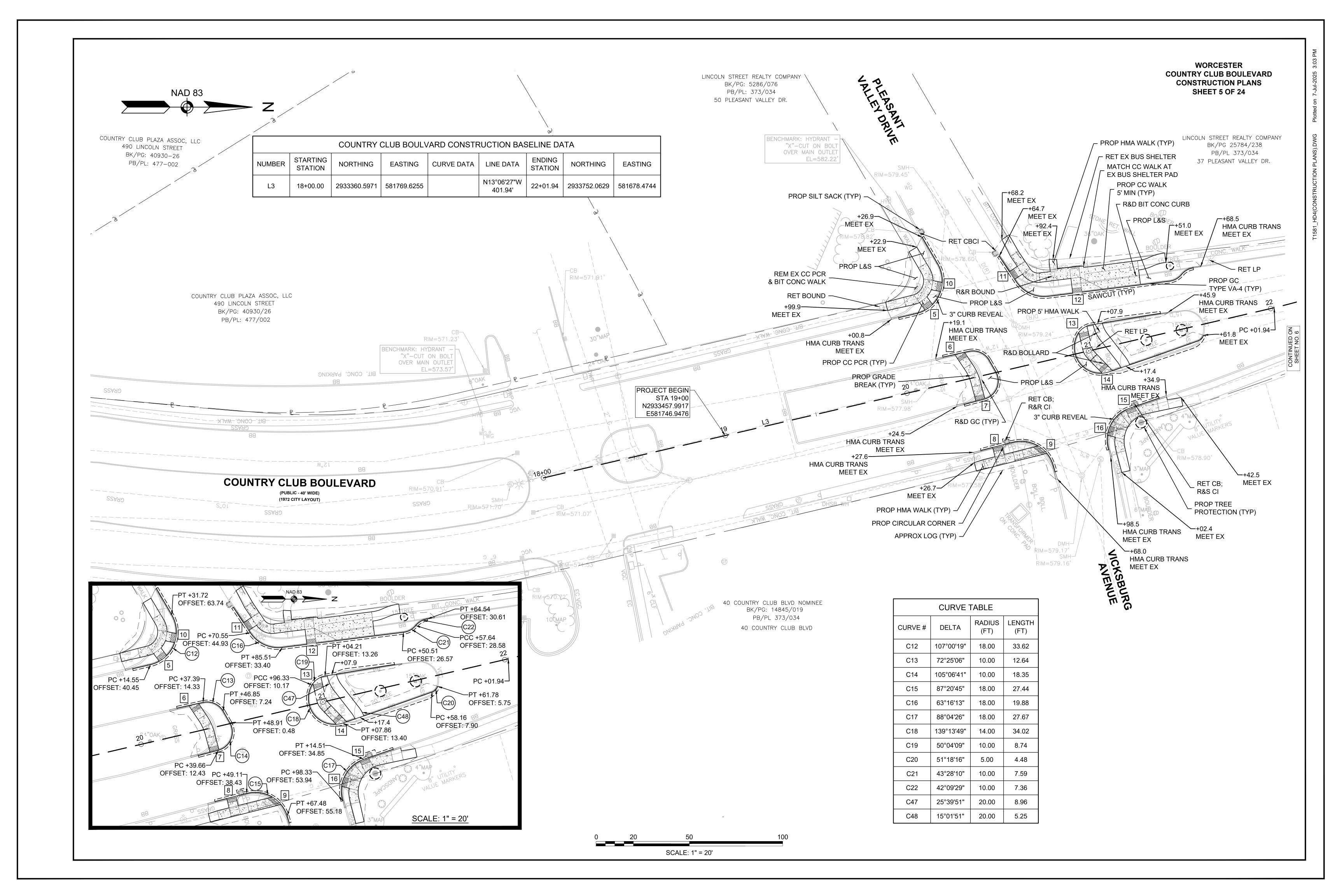
SURFACE: 1 ½" SUPERPAVE TOP COURSE 9.5MM LEVEL 2 OVER

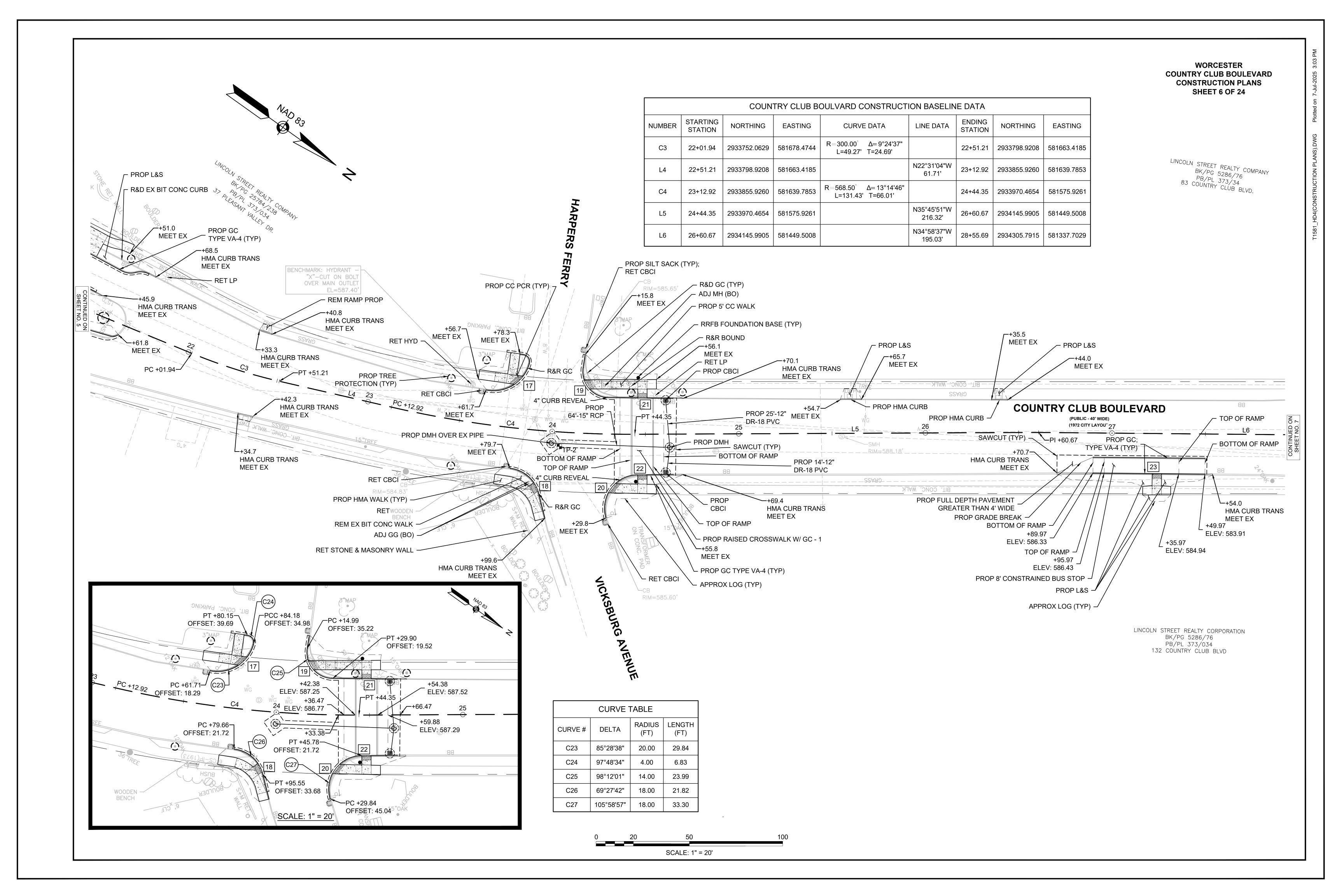
2" SUPERPAVE INTERMEDIATE COURSE 12.5MM LEVEL 2 OVER VARIABLE DEPTH SUPERPAVE 12.5MM INTERMEDIATE COURSE

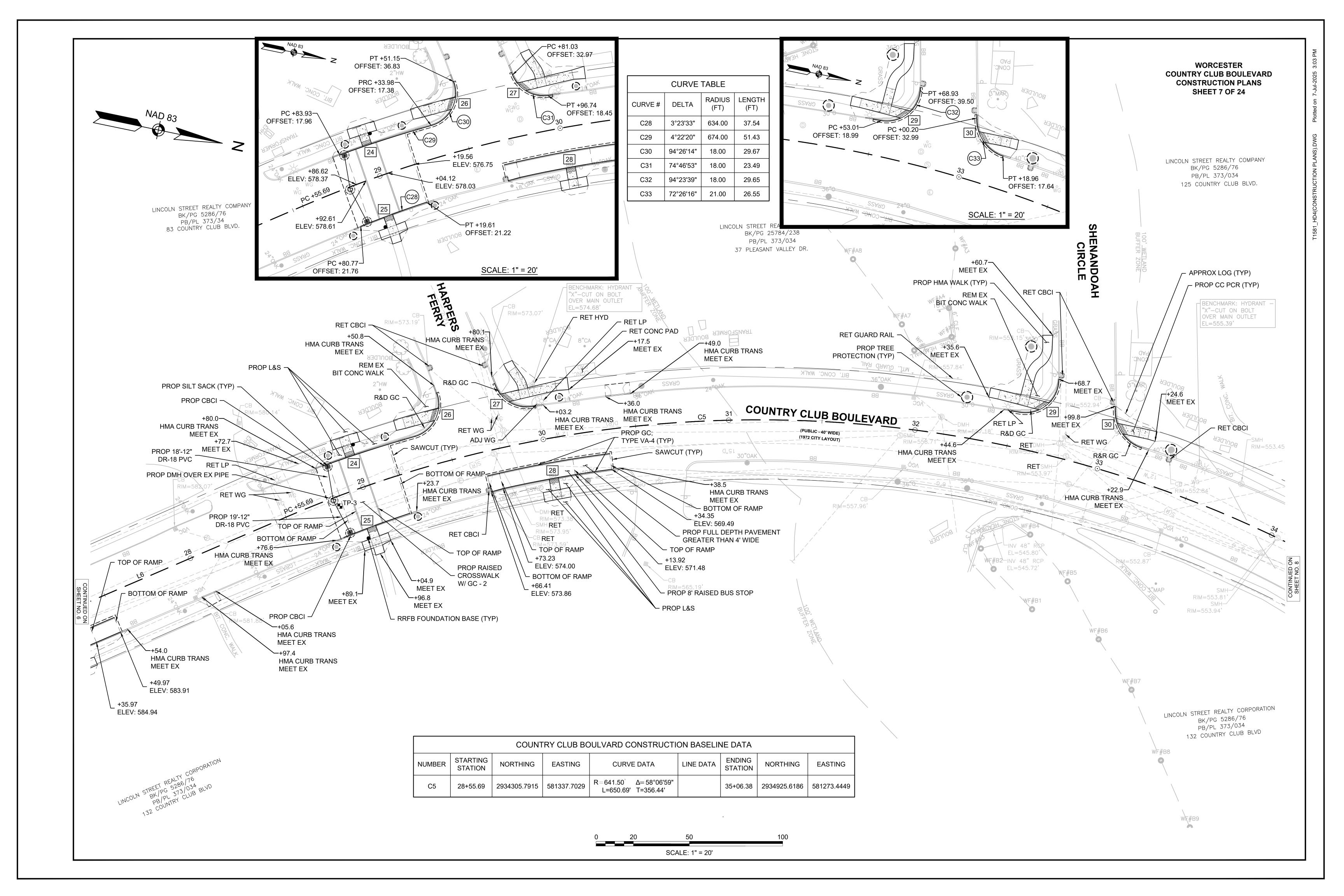
(COMPACTED IN 2" (MAX) LIFTS) TO MATCH EXISTING PAVEMENT THICKNESS

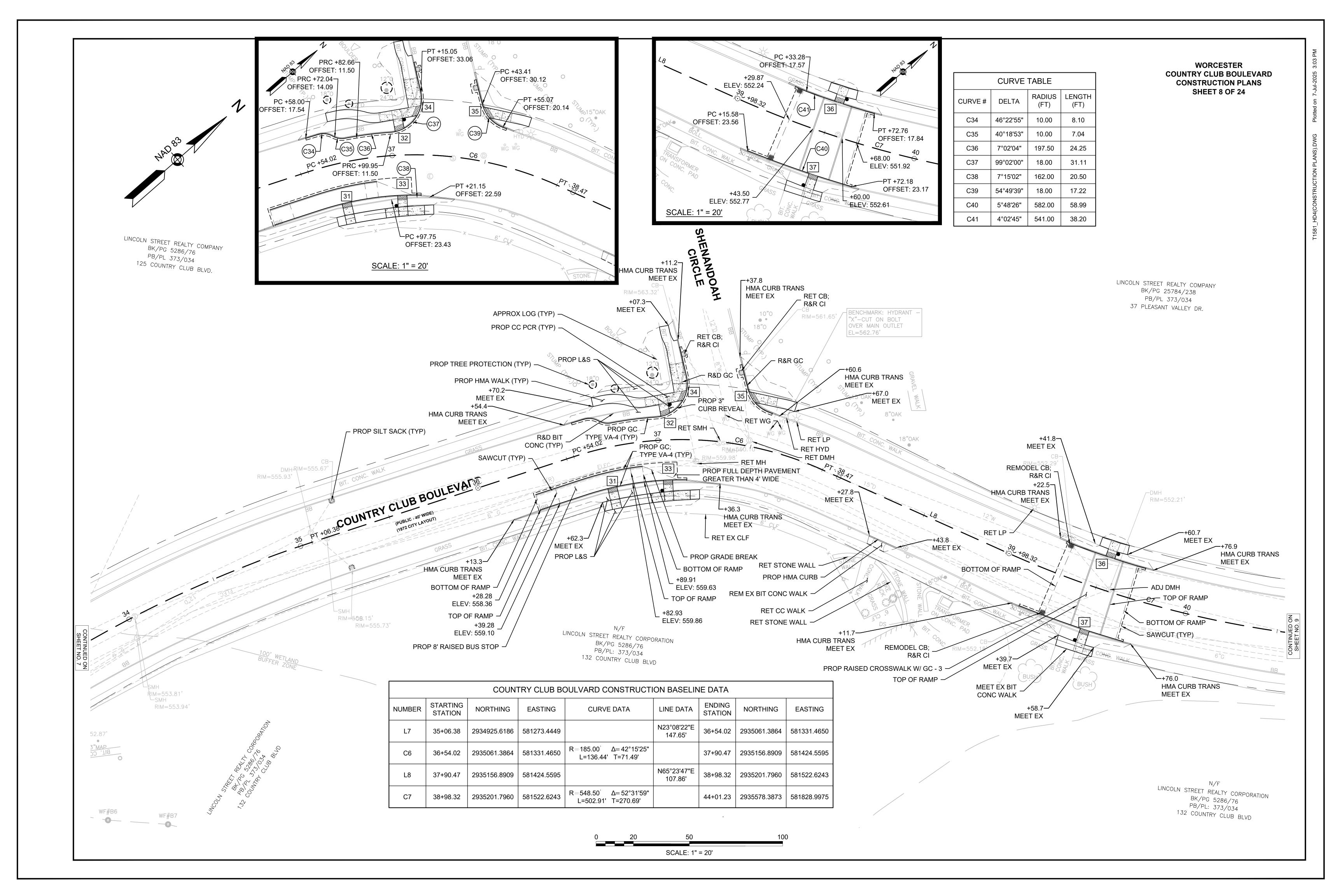
8" GRAVEL BORROW, TYPE b

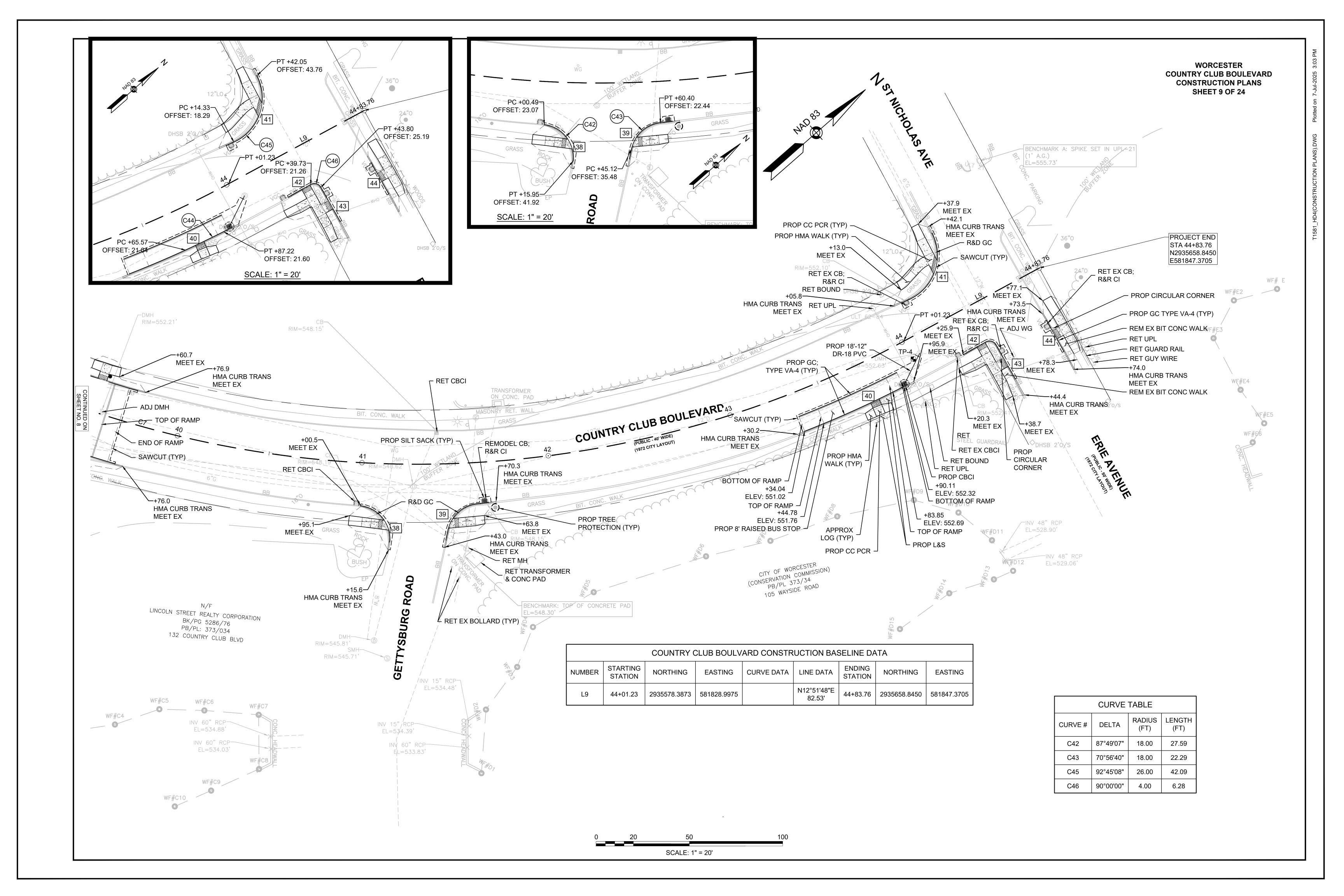


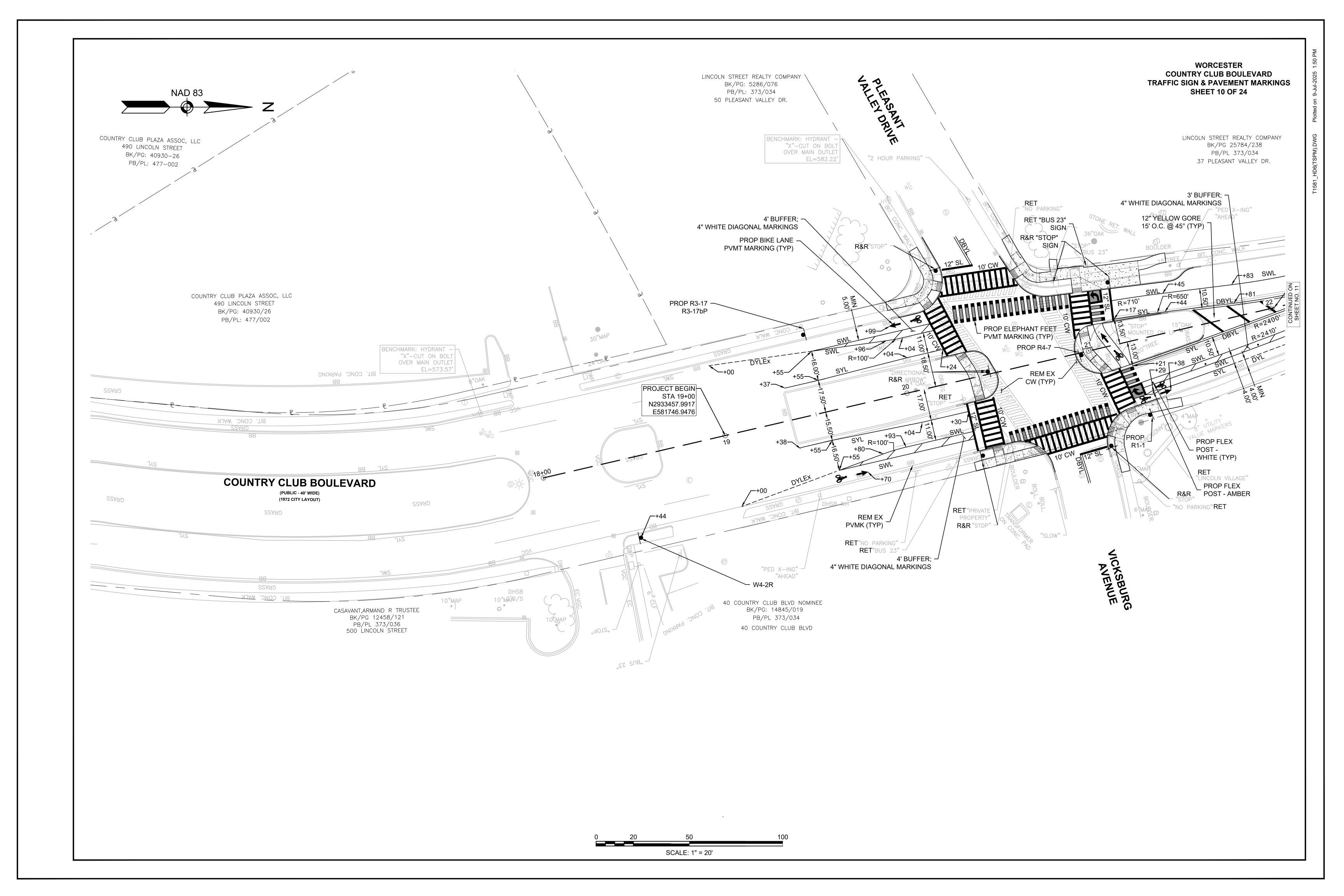


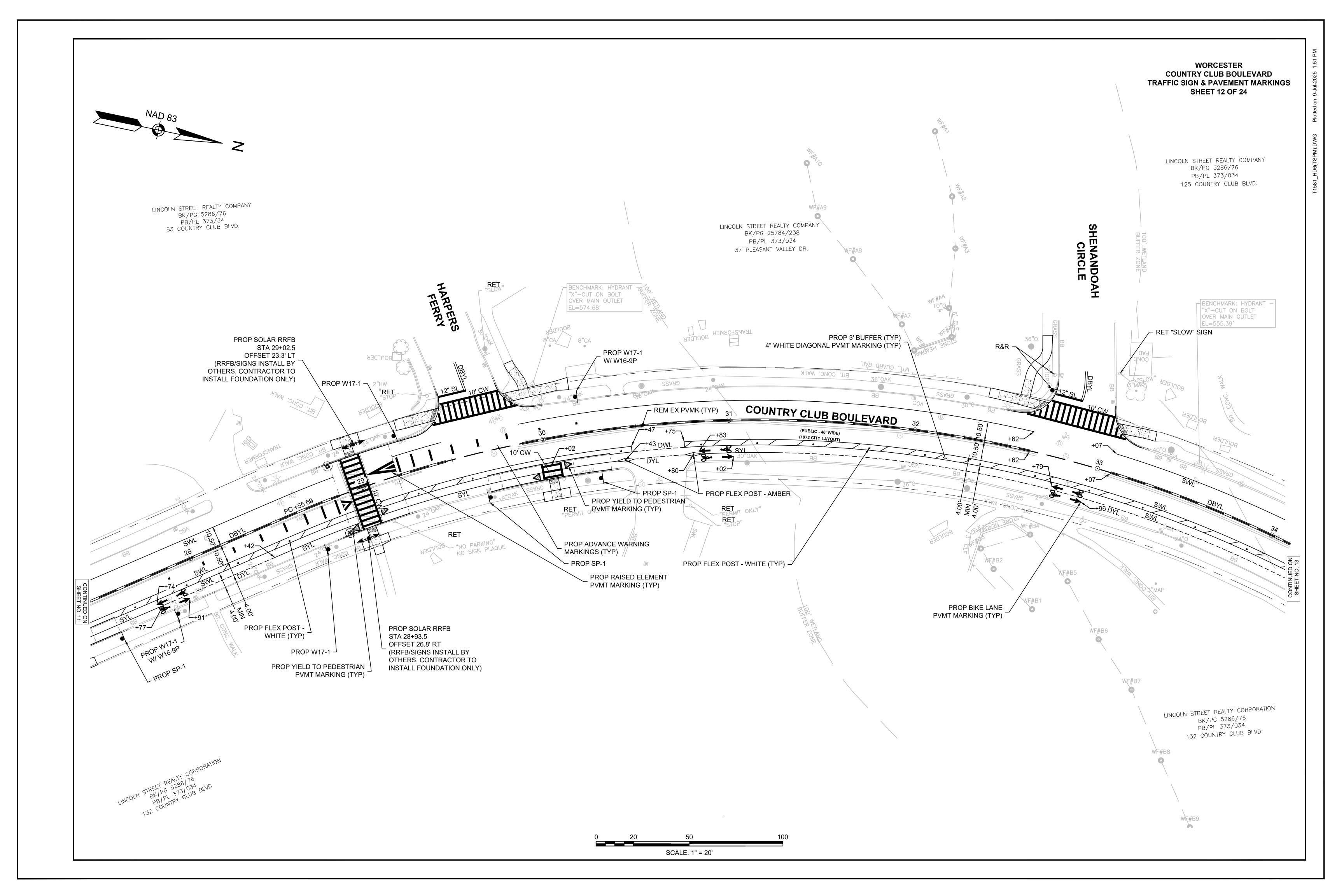


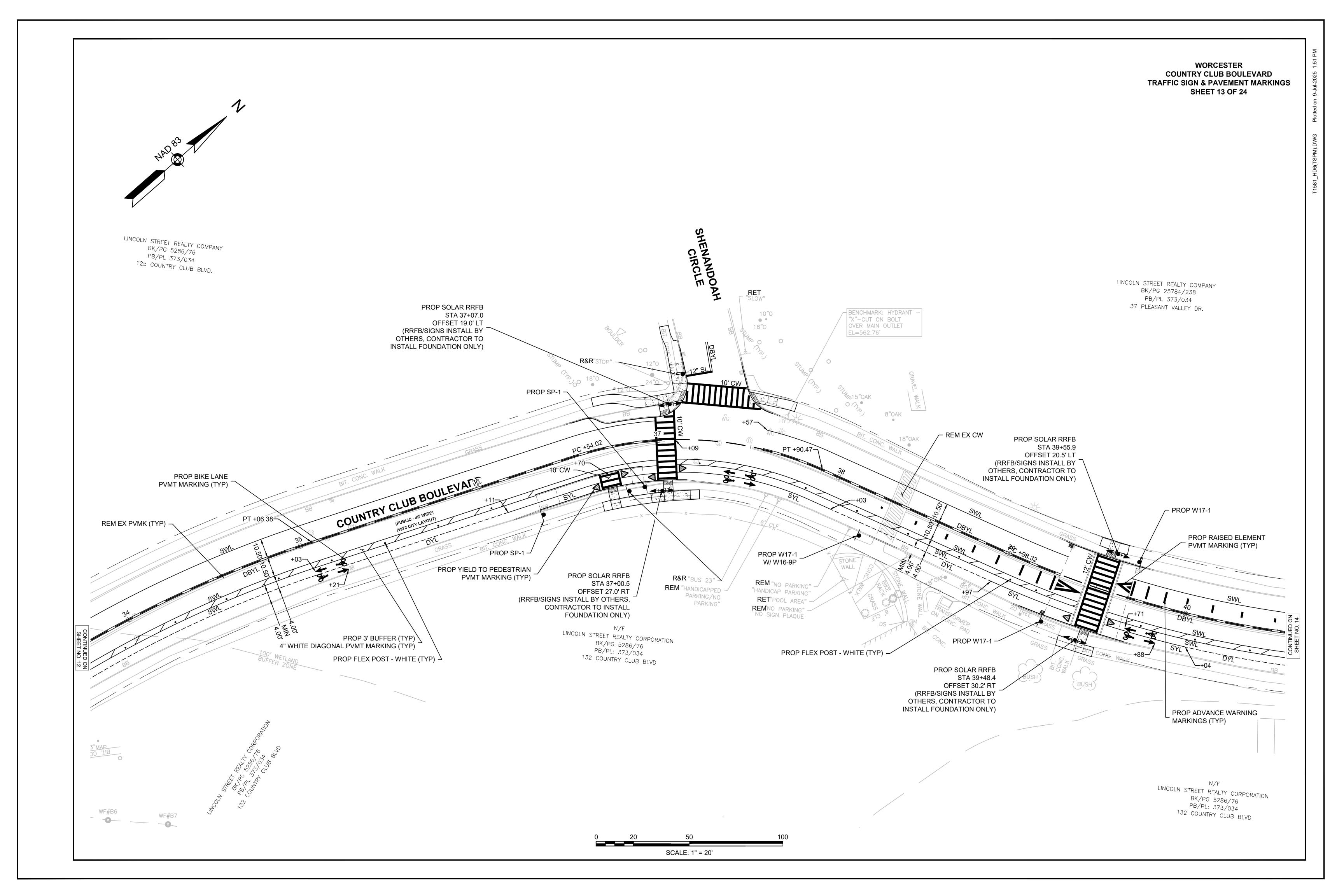


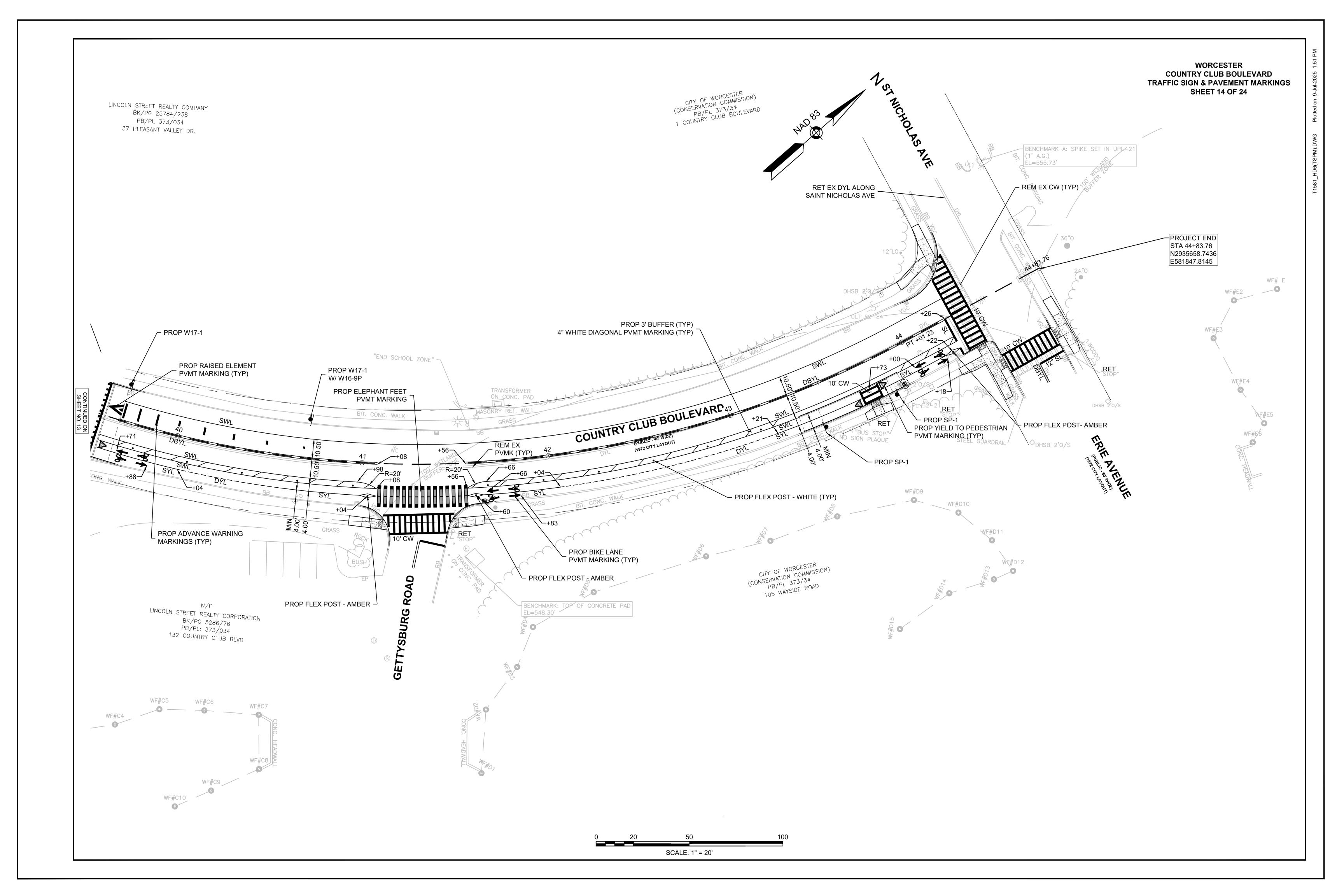












						TRAFFIC S	SIGN SUMMAF	RY					
IDENTIFICATION	SIZE OF SIGN (in)			TEXT DIMENSIONS (in)			NUMBER OF SIGNS	С	OLOR		SIZE AND NUMBER OF	UNIT AREA	TOTAL
NUMBER	WIDTH	HEIGHT	LEGEND	LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR	REQUIRED	BACK- GROUND	LEGEND	BORDER	POSTS REQUIRED	(SF)	AREA (SF)
R1-1	30	30	STOP		1		2	RED	WHITE	WHITE	P5 (2)	6.25	12.50
R3-17	24	18	BIKE LANE				1	WHITE	BLACK	BLACK	P5 (1)	3.00	3.00
R3-17bP	24	9	ENDS				1	WHITE	BLACK	BLACK	W/ R3-17 (1)	1.50	1.50
R4-7	24	30	7		¥		1	WHITE	BLACK	BLACK	P5 (1)	5.00	5.00
SP-1	12	18	DO NOT PASS WHEN BUS IS STOPPED	1.75 C	1	6-7 4.5 x 7.875	8	WHITE	BLACK	BLACK	P5 (8)	1.50	12.00
W4-2R	36	36			1		1	YELLOW	BLACK	BLACK	P5 (1)	9.00	9.00
W16-9P	24	12	AHEAD				6	FLUORESCENT YELLOW	BLACK	BLACK	W/ W17-1 (6)	2.00	12.00
W17-1	30	30	SPEED HUMP		<b>V</b>		12	FLUORESCENT YELLOW	BLACK	BLACK	P5 (12)	6.25	75.00

WORCESTER
COUNTRY CLUB BOULEVARD
SIGN SUMMARY
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#### NOTES:

- 1. SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS FOR TEXT AND LEGEND DIMENSIONS.
- 2. SEE MASSDOT STANDARD SIGN BOOK FOR TEXT AND LEGEND DIMENSIONS.
- 3. THE MINIMUM MOUNTING HEIGHT OF POST-MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF CURB OR SIDEWALK, OR THE ELEVATION OF THE NEAR EDGE OF TRAVEL WAY, SHALL BE 7 FEET UNLESS OTHERWISE SPECIFIED.
- 4. A MINIMUM OF 4'-0" PATH OF TRAVEL CLEARANCE, EXCLUDING CURB, IS REQUIRED WHEN PLACING SIGNS.

#### **TEMPORARY TRAFFIC CONTROL NOTES:**

- ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
- 2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
- 3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
- 4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
- 5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN THE "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
- 6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
- 7. THE FIRST TEN PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
- 8. THE ADVISORY SPEED LIMIT. IF REQUIRED. SHALL BE DETERMINED BY THE ENGINEER
- 9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
- 10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
- 11. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
- 12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.

	LEGEND:				
•	REFLECTORIZED PLASTIC DRUM OR 36" CONE		WORK ZONE		WORK VEHICLE
	1	<b>→</b>	DIRECTION OF TRAFFIC		TRUCK MOUNTED ATTENUATO
P/F	POLICE/FLAGGER DETAIL		IMPACT ATTENUATOR	<b>→</b>	• TRAFFIC OR PEDESTRIAN SIGN
	TYPE III BARRICADE		MEDIAN BARRIER		- SIGN
	CHANGEABLE MESSAGE SIGN		MEDIAN BARRIER WITH		
•••	ARROW BOARD		WARNING LIGHTS		

#### SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DIST	DISTANCE BETWEEN SIGNS **						
ROAD TIPE	А	В	С					
LOCAL OR LOW VOLUME ROADWAYS*	350	350	350					
MOST OTHER ROADWAYS*	500	500	500					
FREEWAYS AND EXPRESSWAYS*	1,000	1,500	2,640					

\* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

\*\* DISTANCES ARE SHOWN IN FEET. THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/
TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO
THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS
THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY
ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTCP SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (i.e. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (i.e. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

MA-R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

MA-R2-10a, MA-R2-10e, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

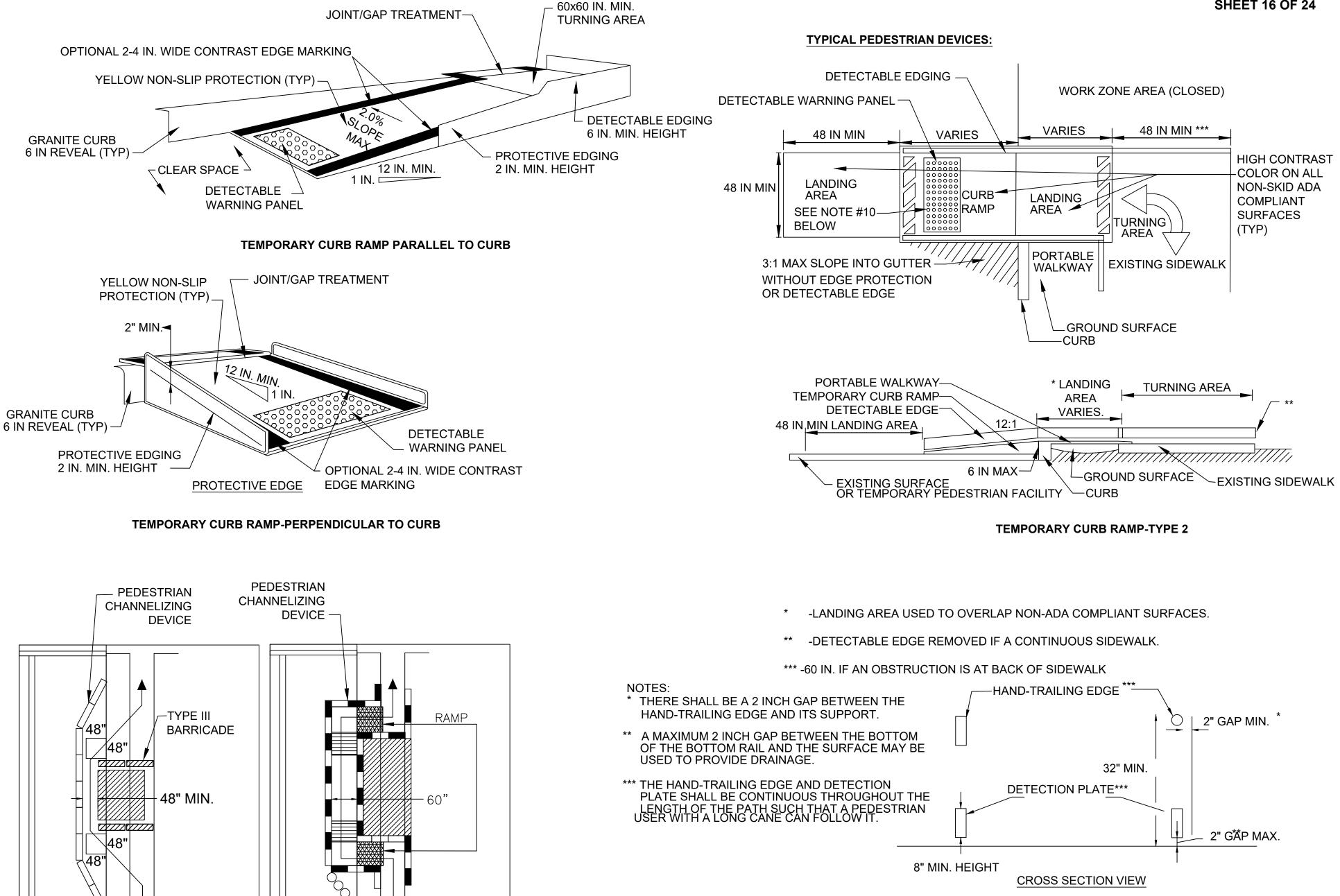
#### TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

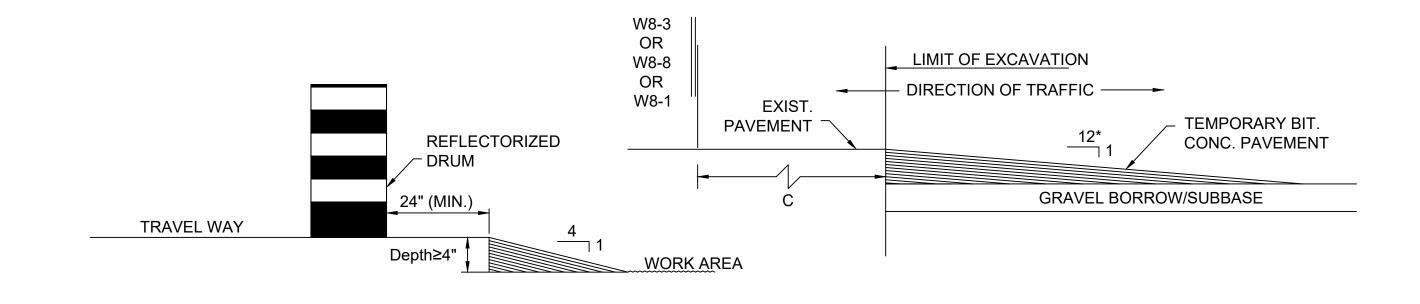
TAPER LENGTH CRITERIA FOR TEIN	FORART TRAITIC CONTROL ZONES
TYPE OF TAPER	TAPER LENGTH (L)
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN. 100 FT MAX.
DOWNSTREAM TAPER	50 FT MIN. 100 FT MAX. PER LANE

#### FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L)	WHERE: L = TAPER LENGTH IN FEET
	FEET	W = WIDTH OF OFFSET IN FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$	S = POSTED SPEED LIMIT, OR OFF-PEAK
45 MPH OR MORE	L= WS	85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

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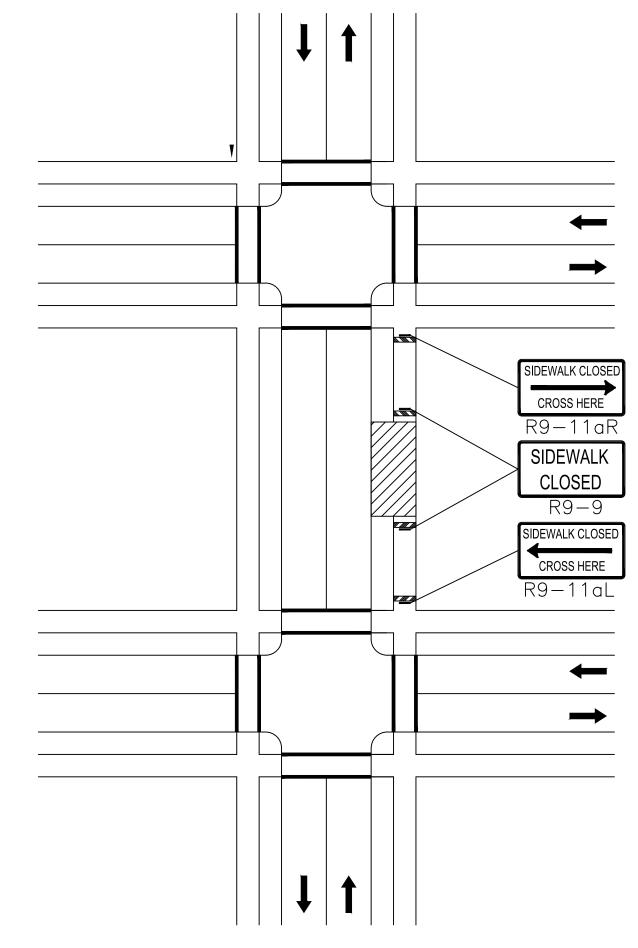




-DRUMS/CONES

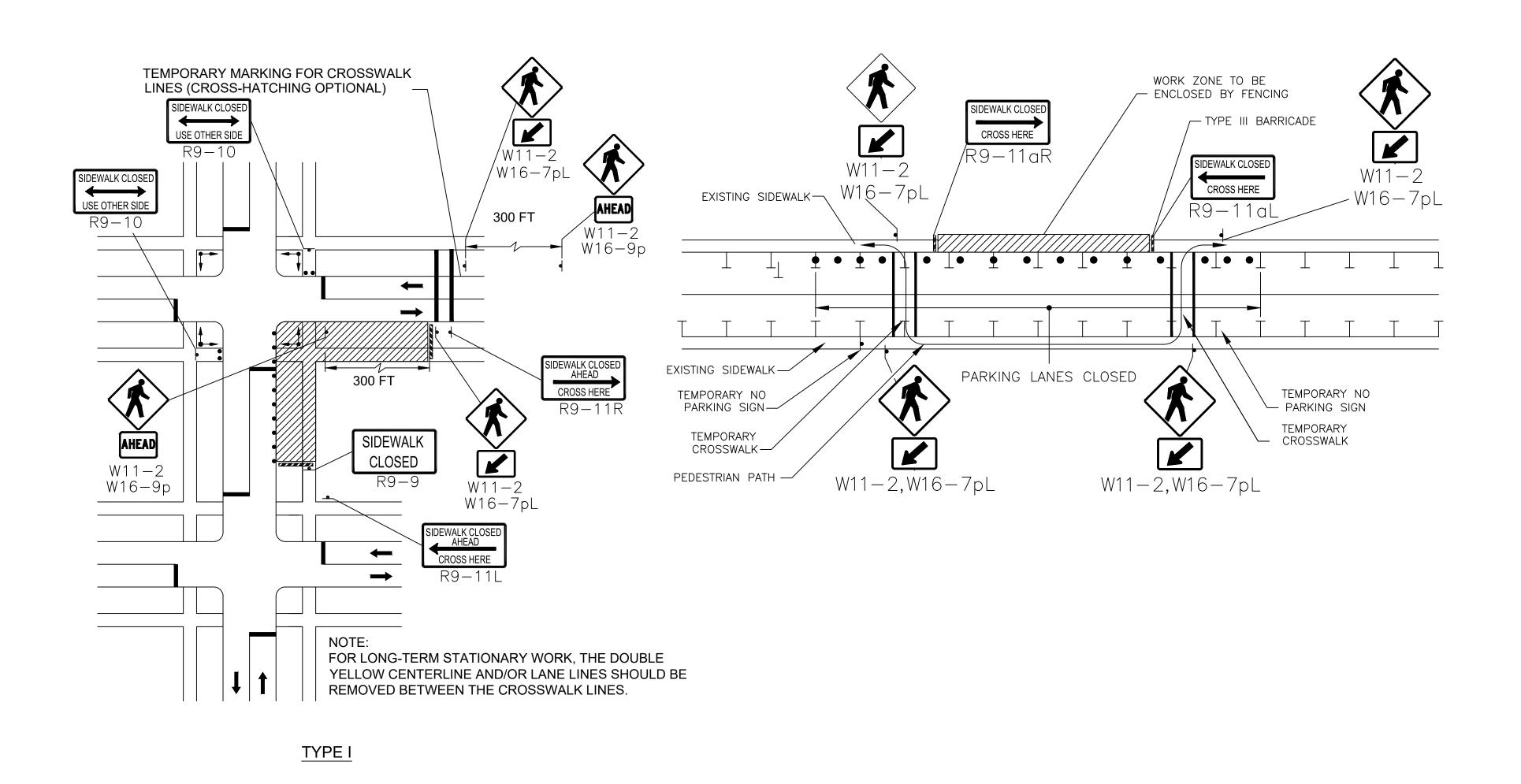
PEDESTRIAN BYPASS

\* - INCREASE SLOPE RATIO FOR HIGHER SPEEDS PEDESTRIAN CHANNELIZING DEVICE

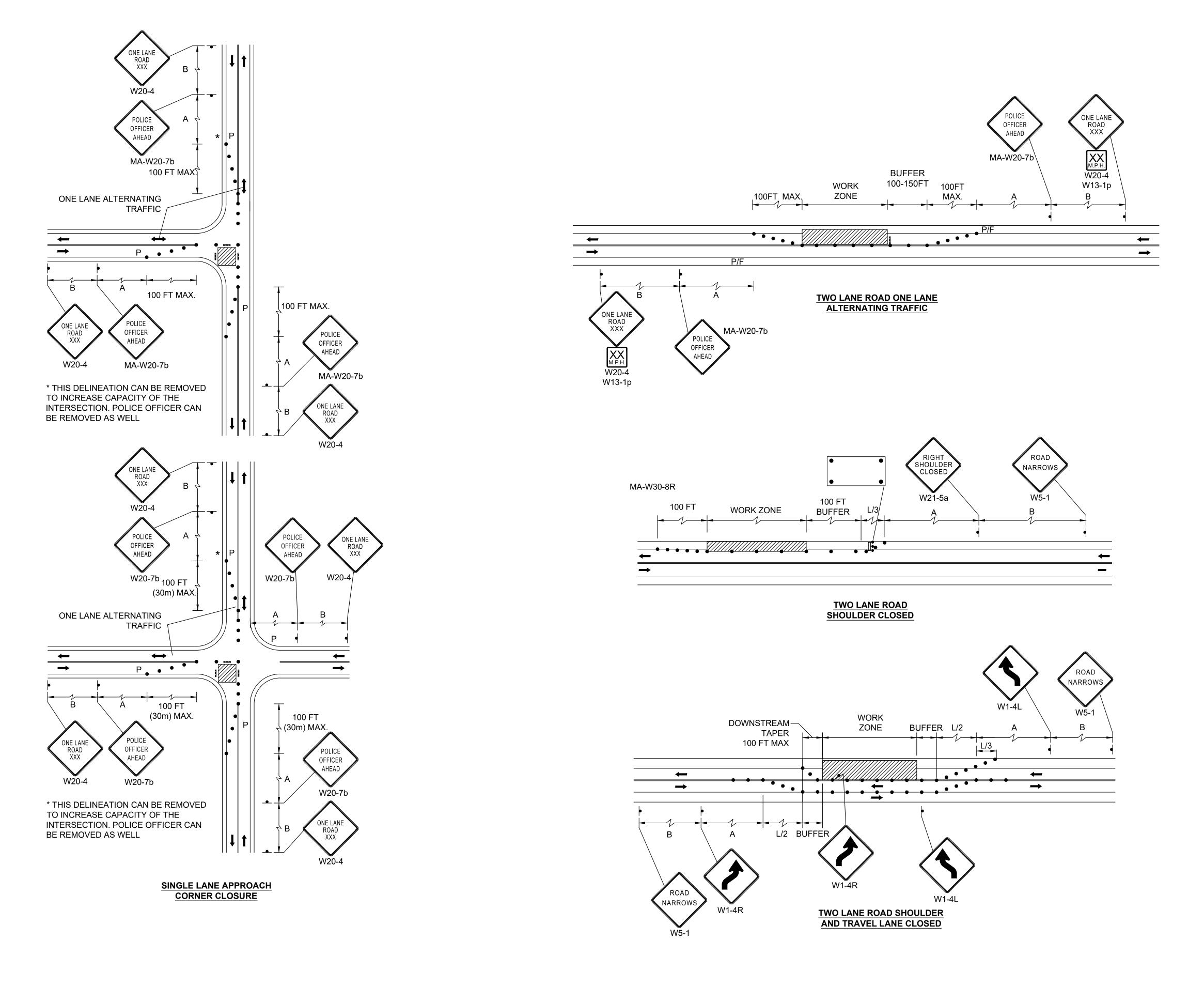


NOTE: IF A MINIMUM WIDTH OF 48" OF SOLID SMOOTH UNOBSTRUCTED SURFACE REMAINS ALONG THE WORK AREA THEN THE DETAIL CAN BE DISREGARDED. DELINEATION OF THE WORK AREA WILL STILL BE REQUIRED. AII PEDESTRIAN DETOUR ROUTES SHALL BE ADA/MAAB COMPLIANT IN THEIR ENTIRETY.

SIDEWALK CLOSED WITHOUT DETOUR

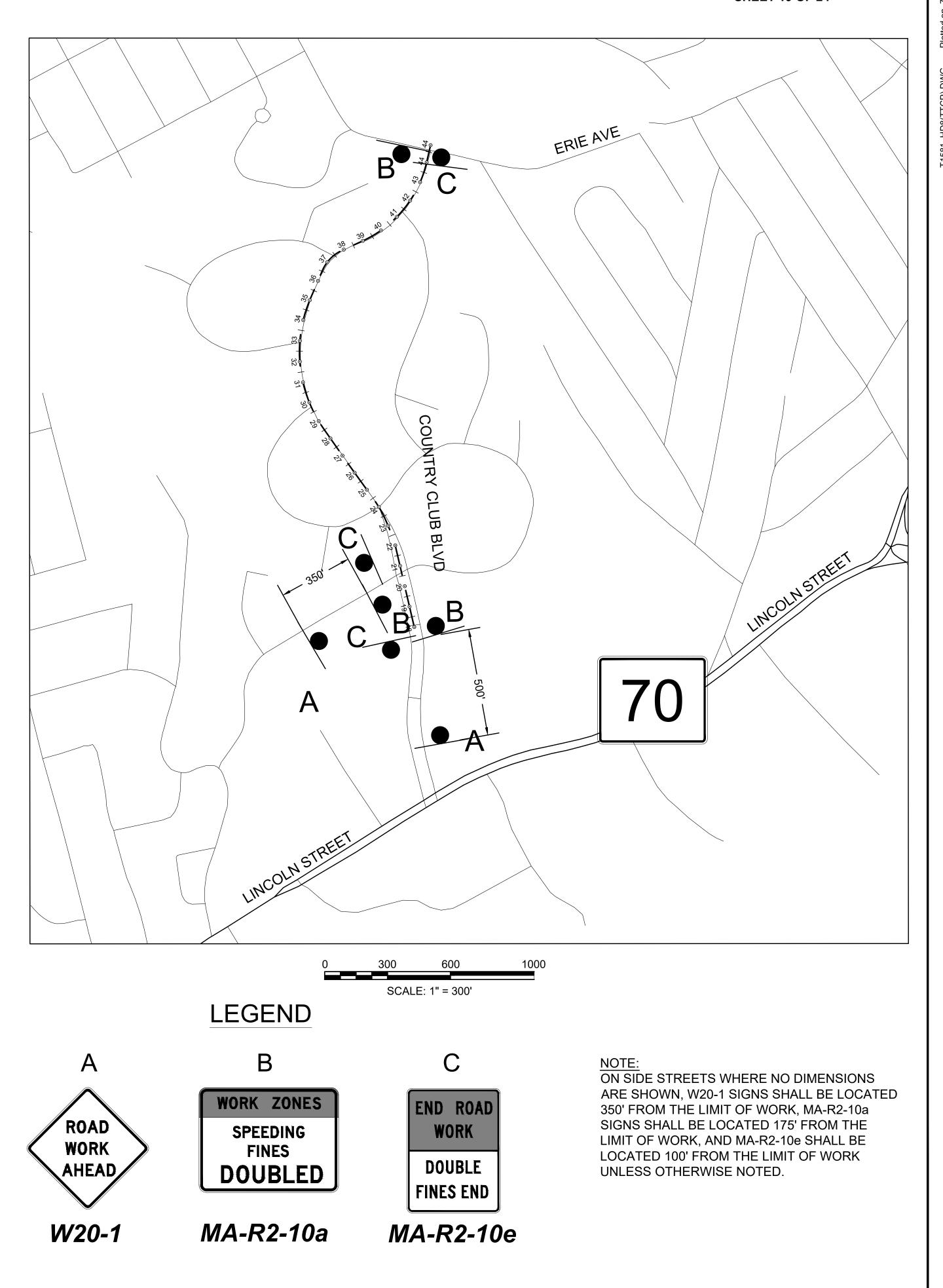


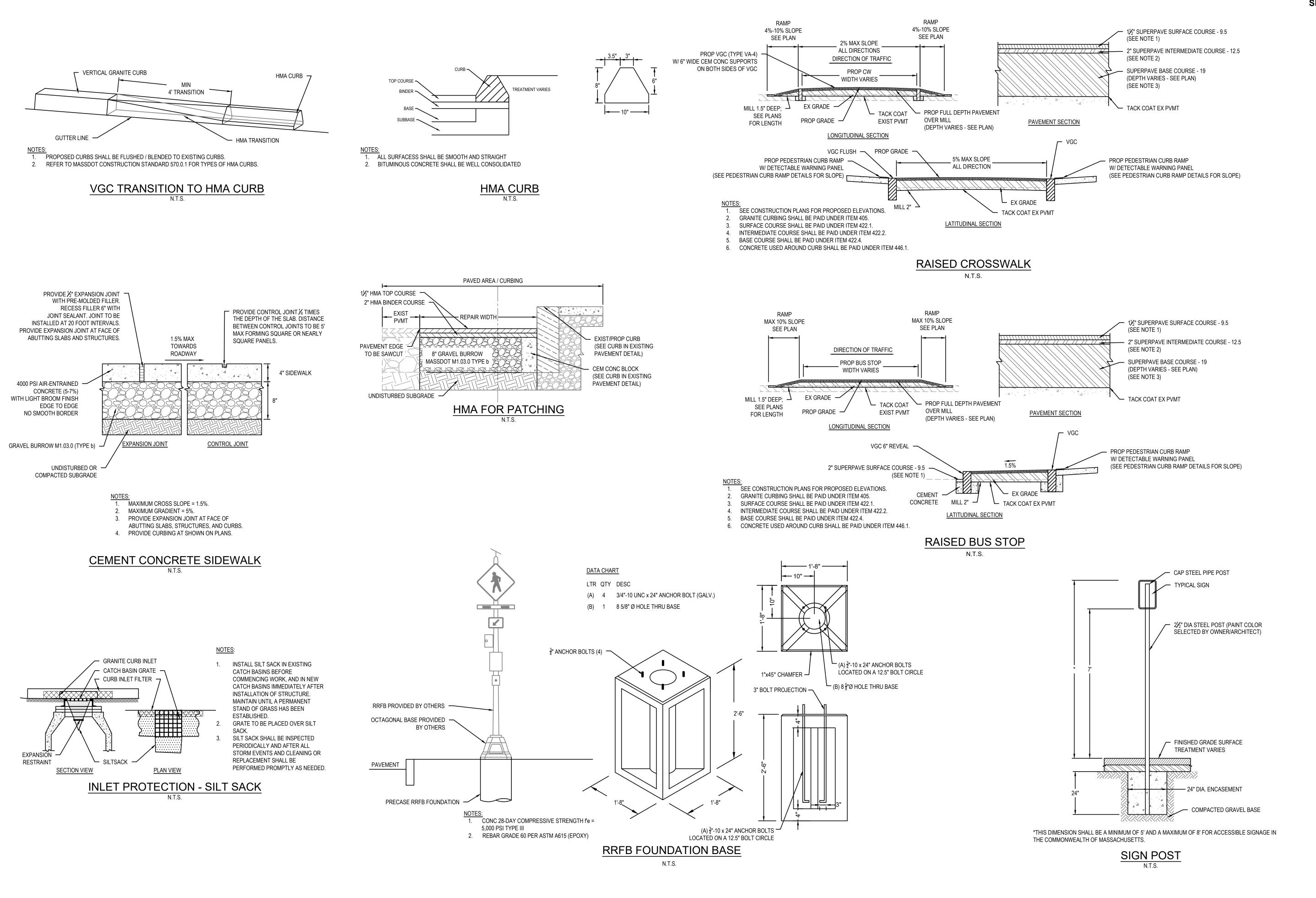
PEDESTRIAN DETOUR

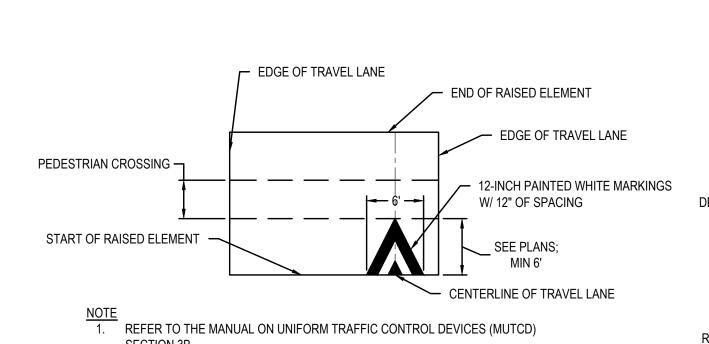


			Т	EMPORARY TRAFFIC CONTROL	SIGN SUMM	IARY			T	
IDENTIFICATIO	SIZE OF	SIGN (in)		TEXT DIMENSIONS (in)		COLOR			UNIT AREA	TOTAL
N NUMBER	WIDTH	HEIGHT	LEGEND	LETTER VERTICAL RTE. HEIGHT SPACING MKR	BACK- GROUND	LEGEND	BORDER	SIGNS REQUIRED	(SF)	AREA (SF)
MA-R2-10a	48	36	SPEEDING FINES DOUBLED	MASSDOT STANDARD SIGN	FL. ORANGE WHITE	BLACK BLACK	BLACK BLACK	8	12.00	96.00
MA-R2-10e	36	48	END ROAD WORK DOUBLE FINES END	MASSDOT STANDARD SIGN	FL. ORANGE WHITE	BLACK BLACK	BLACK BLACK	6	12.00	72.00
R9-9	24	12	SIDEWALK CLOSED	SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	WHITE	BLACK	BLACK	2	2.00	4.00
R9-10	24	12	SIDEWALK CLOSED  USE OTHER SIDE		WHITE	BLACK	BLACK	2	2.00	4.00
R9-11L	24	18	SIDEWALK CLOSED  AHEAD  CROSS HERE		WHITE	BLACK	BLACK	1	3.00	3.00
R9-11R	24	18	SIDEWALK CLOSED  AHEAD  CROSS HERE		WHITE	BLACK	BLACK	1	3.00	3.00
R9-11aL	24	12	SIDEWALK CLOSED CROSS HERE		WHITE	BLACK	BLACK	2	2.00	4.00
R9-11aR	24	12	SIDEWALK CLOSED  CROSS HERE		WHITE	BLACK	BLACK	2	2.00	4.00
W1-4L	36	36	<b>\$</b>		FL. ORANGE	BLACK	BLACK	2	9.00	18.00
W1-4R	36	36			FL. ORANGE	BLACK	BLACK	2	9.00	18.00
W5-1	36	36	ROAD		FL. ORANGE	BLACK	BLACK	2	9.00	18.00
W11-2	30	30			FL. YELLOW GREEN	BLACK	BLACK	4	6.25	25.00
W13-1p	18	18	XX MPH		FL. ORANGE	BLACK	BLACK	2	2.25	4.50
W16-7pL	21	15			FL. YELLOW GREEN	BLACK	BLACK	4	2.19	8.75
W16-9p	24	12	AHEAD		FL. YELLOW GREEN	BLACK	BLACK	2	2.00	4.00
W20-1	36	36	ROAD WORK AHEAD		FL. ORANGE	BLACK	BLACK	8	9.00	72.00
W20-4	36	36	ONE LANE ROAD AHEAD		FL. ORANGE	BLACK	BLACK	4	9.00	36.00
MA-W20-7b	36	36	POLICE OFFICER AHEAD	MASSDOT STANDARD SIGN	FL. ORANGE	BLACK	BLACK	4	9.00	36.00
W21-5a	36	36	RIGHT SHOULDER CLOSED	SEE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	FL. ORANGE	BLACK	BLACK	1	9.00	9.00

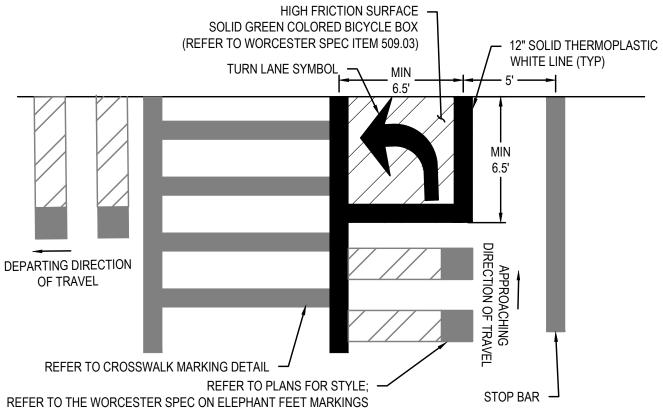
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COUNTRY CLUB BOULEVARD
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RAISED ELEMENT PAVEMENT MARKING N.T.S.

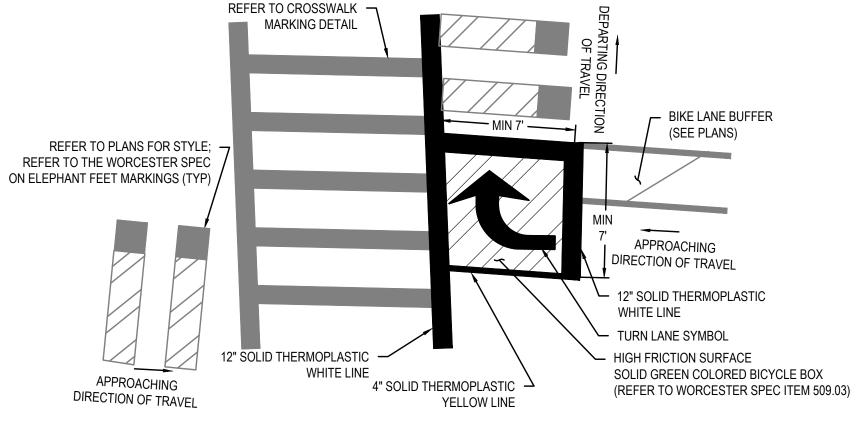


HIGH FRICTION GREEN BIKE BOXE MARKINGS - TYPE 1

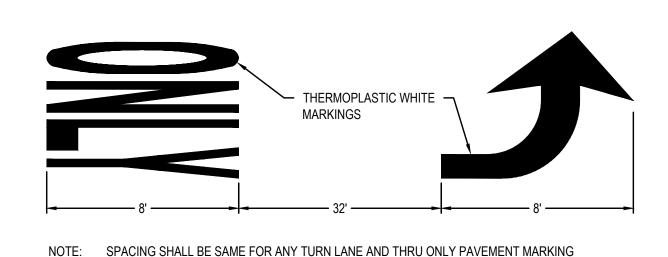
ViziGrip® HIGHSKID SURFACE 7

- 4" SOLID YELLOW LINE

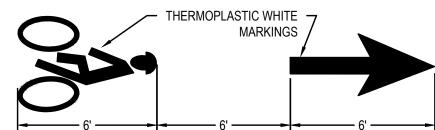
THERMOPLASTIC WHITE



HIGH FRICTION GREEN BIKE BOXE MARKINGS - TYPE 2

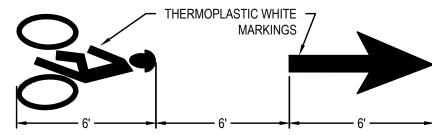


(REFER TO MUTCD STANDARDS) TURN LANE PAVEMENT MARKING

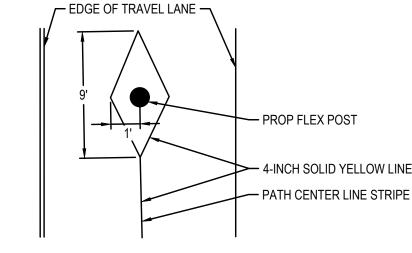


### ELEPHANT FEET PAVEMENT MARKING - TWO LANE

1. REFER TO WORCESTER STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS FOR ONE LANE



#### HELMETED BICYCLIST LANE PAVEMENT MARKING

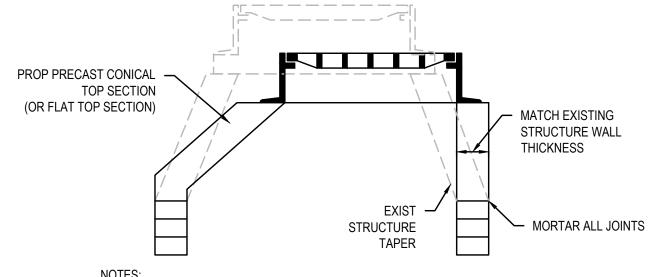


SEE PLANS FOR LOCATIONS OF FLEX POSTS ALONG CENTER LINE OF TWO-WAY BIKE LANE. 2. SEE PLANS FOR LOCATION OF FLEX POSTS THROUGHOUT THE BIKE LANE BUFFER.

### CENTER LINE FLEX POST LOCATION

**YIELD** 

TO PEDS

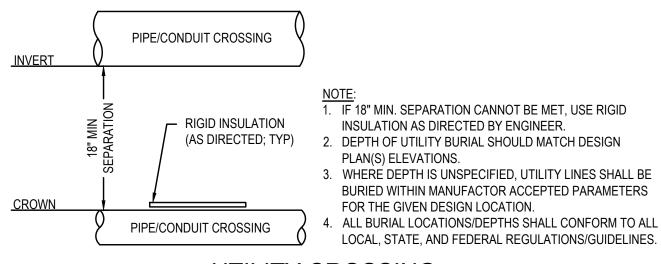


NOTES:

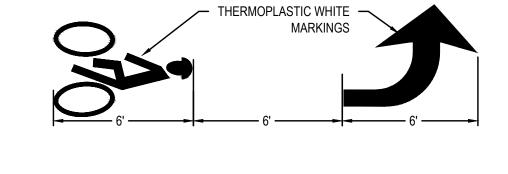
1. FRAME & GRATE OR FRAME & COVER SHALL BE SET AT FINISHED GRADE. 2. A MINIMUM OF ONE (1) COURSE OF RED SEWER BRICK SHALL BE USED BETWEEN

THE FRAME AND THE PRECAST TOP SECTION.

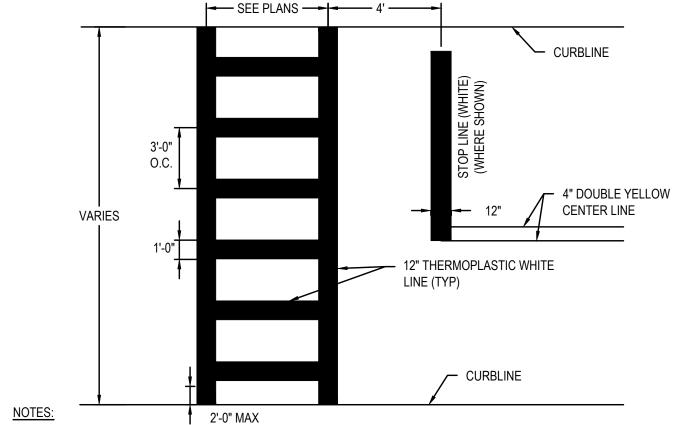
### MANHOLE / CATCH BASIN REMODEL



### **UTILITY CROSSING**



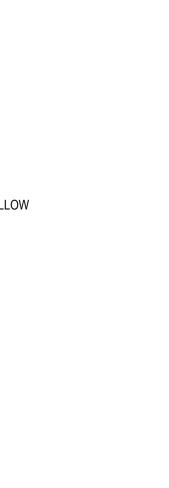
#### HELMETED BICYCLIST TURN LANE PAVEMENT MARKING



- 1. ALL 12" LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO 6" LINES) WILL BE ACCEPTED. ALL 24" LINES MAY BE EITHER ONE 24" LINE OR A COMBINATION OF TWO - 12" LINES.
- MANUFACTURERS SPECIFICATIONS. 3. BEADS MUST BE APPLIED IN ALLOWANCE WITH PRESENT STANDARDS OF THE COMMONWEALTH OF
- 4. LAYOUT OF CROSSWALKS SHALL BE APPROVED BY THE ENGINEER PRIOR TO APPLICATION.

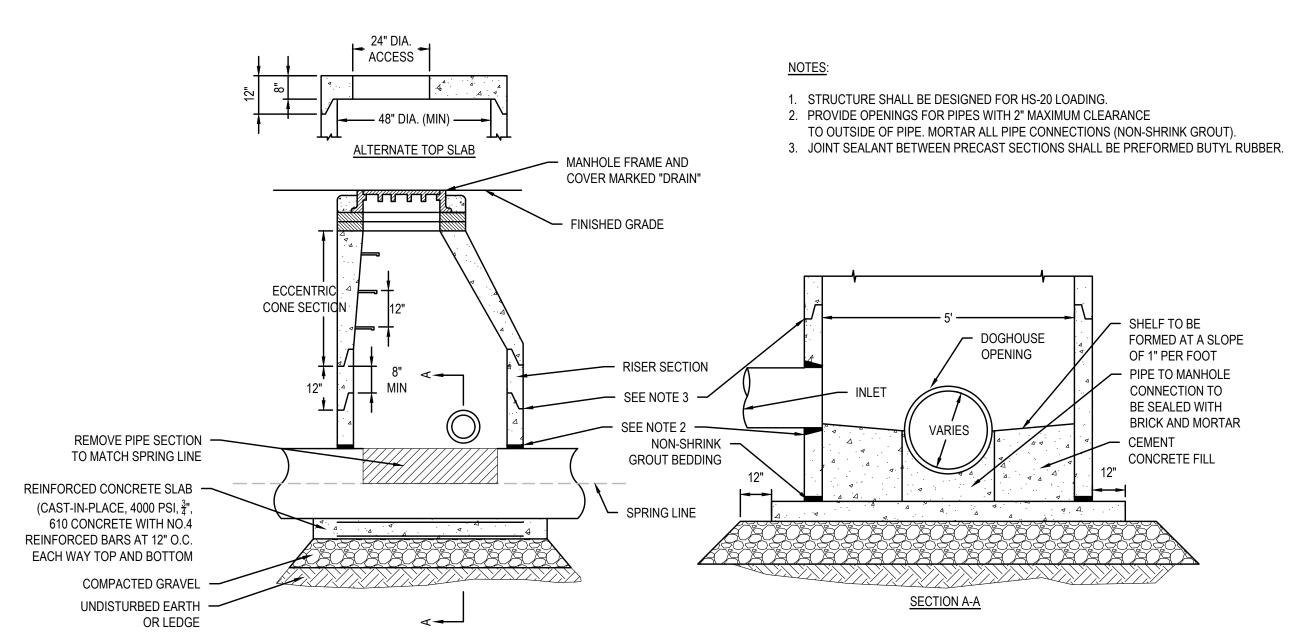
2. PAINTING SHALL BE DONE ONLY IN SEASONABLE WATHER CONDITIONS IN ACCORDANCE WITH THE

- 5. CROSSWALK BARS SHALL BE PLACED OUTSIDE THE VEHICULAR WHEEL PATH AND AVOID ANY STRUCTURES
- 6. REFER WORCESTER STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS FOR CROSSWALK MARKINGS



- 1. PAVEMENT MARKING SYMBOLS SHALL BE CONSISTED OF PREFORMED THERMOPLASTIC.
- 2. THE BACKGROUND SHALL BE RED, THE LEGEND AND BORDER SHALL BE WHITE.

YIELD TO PEDESTRIAN MARKING



DRAINAGE MANHOLE OVER EXISTING PIPE

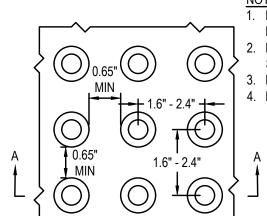
CROSSWALK PAVEMENT MARKING

- 2. A MINIMUM OF 4'-0" CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E.,
- HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.). 3. CURBING SHALL BE GRANITE CURBING TYPE VA-4.
- 4. RAMP, CURB AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
- 5. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5'x5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FT.
- 6. ELIMINATE CURBING AT RAMP WHERE IT ABUTS ROADWAY, UNLESS AT THE RAISED CROSSWALK. 7. DETECTABLE WARNING PANELS ARE REQUIRED ON ALL OF THE PROPOSED PEDESTRIAN CURB RAMPS/MEDIAN CUT THROUGH AND ARE TO BE INSTALLED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARD. CONTRACTOR
- ABUTS THE ROADWAY. 8. PEDESTRIAN CURB RAMP SLOPES AND CROSS SLOPES SHALL HAVE A CONSTRUCTION TOLERANCE OF ±0.5%.

SHALL PROVIDE A MINIMUM OF 6" BETWEEN DETECTABLE WARNING PANEL AND EDGE OF CONCRETE WHERE IT

9. DETECTABLE WARNING PANELS SHALL BE YELLOW IN COLOR AS APPROVED BY THE LOCAL DPW.

#### PEDESTRIAN CURB RAMP NOTES



CIRCULAR CORNER -(WORCESTER STANDARD)

NOTES:

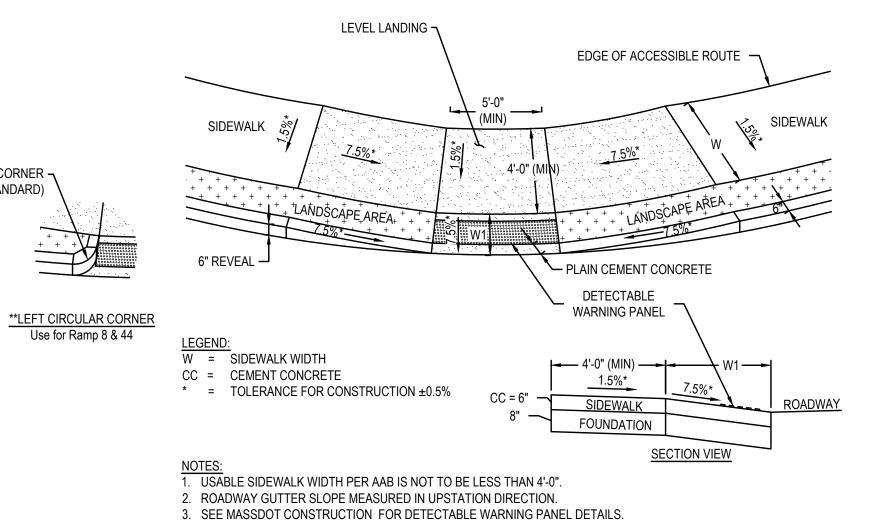
1. PANELS MAY BE CONCRETE PRECAST OR CAST IN PLACE OR OTHER SUITABLE MATERIAL PERMANENTLY APPLIED TO THE RAMP. . DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING

SURFACES EITHER LIGHT ON DARK, OR DARK ON LIGHT. DETECTABLE WARNING PANEL MUST LEAD TO A OPEN SPACE OF 4'X5' WITHIN CROSSWALK.

4. DETECTABLE WARNING PANEL SHALL NOT BE INTERRUPTED BY OBJECT.

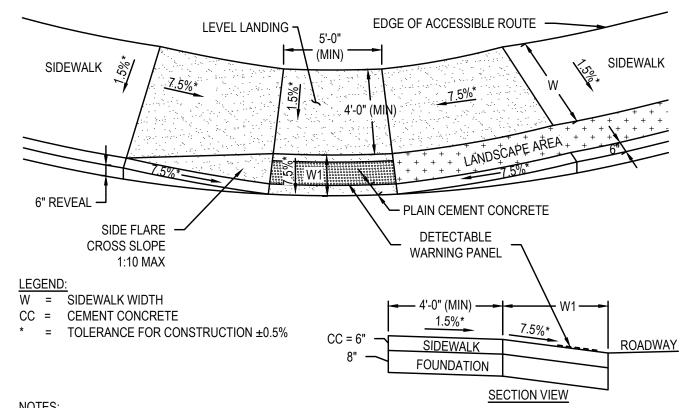
50% - 60% OF THE BASE DIAMETER 0.9" - 1.4" SECTION A-A

### DETECTABLE WARNING PANEL



### PEDESTRIAN CURB RAMP - TYPE 3

	PEDESTRIAN CURB RAMP DATA - TYPE 3														
DAMD		OFFOFT	LEVEL LANDING (FT)		\\/1	ROADWAY	L	LEFT SIDE			RIGHT SIDE				
RAMP #	STATION	(FT)	(FT) WIDTH DEBTH (FT) GU	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)					
8	20+40.6	38.6 RT	5.0	5.0	5.0	2.6%	11.0**	6.0	5.0	6.5	6.0	5.0			
11	20+69.1	48.7 LT	5.0	5.0	5.0	1.1%	6.5	6.0	5.0	7.7	6.0	5.0			
33	37+4.6	21.5 RT	5.0	5.0	8.6	3.0%	9.0	6.0	5.0	6.5	6.0	5.0			
44	44+73.9	35.4 RT	5.0	5.0	4.0	1.7%	6.5**	6.0	5.0	7.7	6.0	5.0			



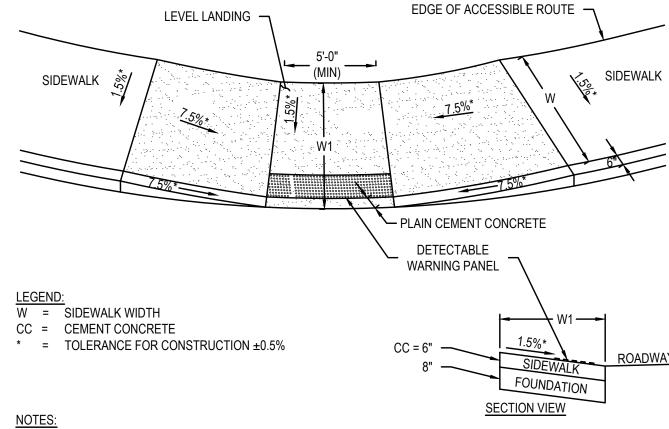
NOTES:

1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".

2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION. 3. SEE MASSDOT CONSTRUCTION FOR DETECTABLE WARNING PANEL DETAILS.

#### PEDESTRIAN CURB RAMP - TYPE 1

	PEDESTRIAN CURB RAMP DATA - TYPE 1														
RAMP #	STATION	OFFSET (FT)	LEVEL LANDING (FT)		W1	ROADWAY	LEFT SIDE			RIGHT SIDE					
			WIDTH (Lw)	DEPTH (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)			
16	21+0.6	44.0 RT	5.0	5.0	4.0	-2.1%	3.25	3.0	8.5	6.5	6.0	5.0			
18	23+94.0	30.2 RT	5.0	5.0	3.2	2.7%	11.0	6.0	5.0	6.5	6.0	5.0			



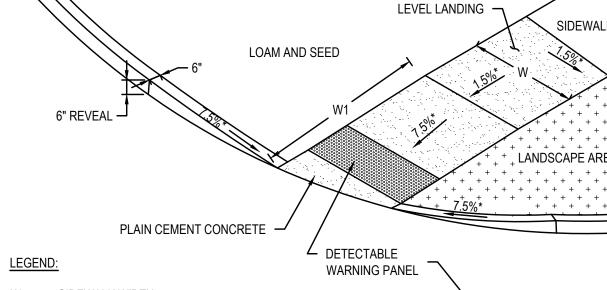
NOTES:

1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".

2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION. 3. SEE MASSDOT CONSTRUCTION FOR DETECTABLE WARNING PANEL DETAILS.

#### PEDESTRIAN CURB RAMP - TYPE 4

					PEDE	STRIAN CUR	B RAMP DATA	- TYPE 4				
DAMD		OFFSET	LEVEL L (F	Anding T)	W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE	
RAMP #	STATION	(FT)	WIDTH (Lw)	DEPTH (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
15	21+14.5	34.9 RT	5.0	7.2	7.2	0.8%	14.00	6.0	6.0	3.25	3.0	7.2



W = SIDEWALK WIDTH CC = CEMENT CONCRETE \* = TOLERANCE FOR CONSTRUCTION ±0.5%

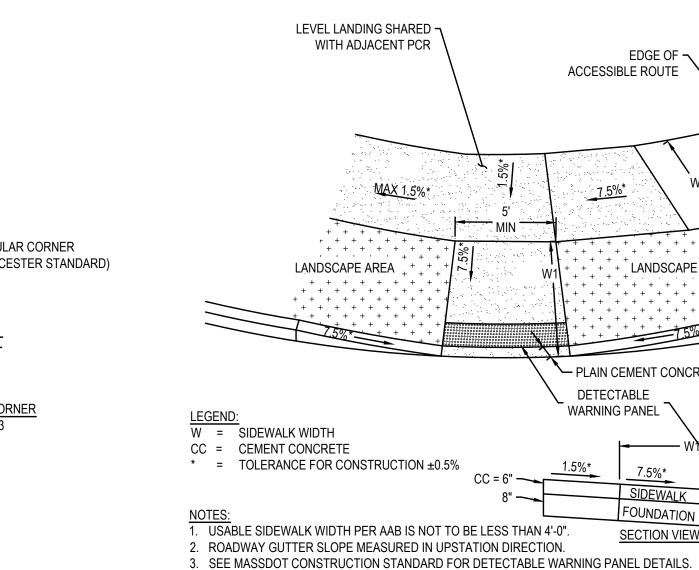
SIDEWALK ---1.5%\* FOUNDATION NOTES:

1. USABLE SIDEWALK WIDTH PER AAB = W. SECTION VIEW

2. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0". 3. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION. 4. SEE MASSDOT CONSTRUCTION FOR DETECTABLE WARNING PANEL DETAILS.

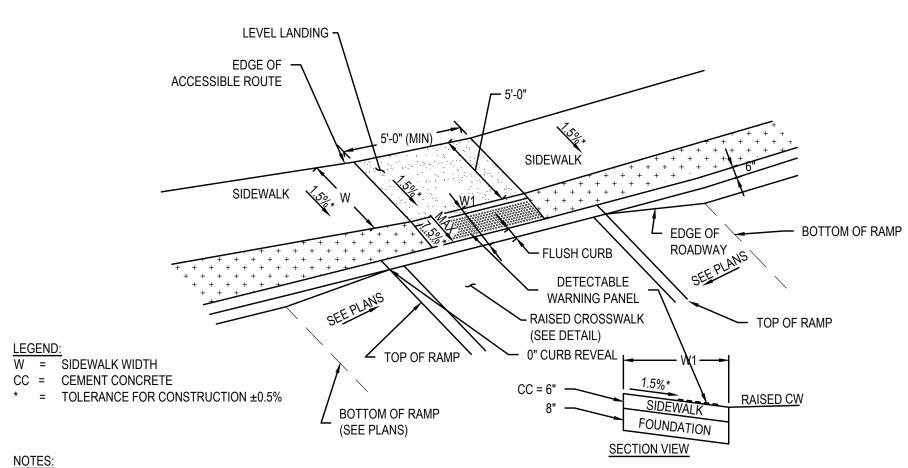
### PEDESTRIAN CURB RAMP - TYPE 9

					PEDE	STRIAN CUR	B RAMP DATA	- TYPE 4				
DAMD		OFFSET	1	ANDING T)	W1	ROADWAY	I	EFT SIDE		R	IGHT SIDE	
RAMP #	STATION	(FT)	WIDTH (Lw)	DEPTH (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
6	20+32.3	14.4 LT	5.0	5.0	9.0	1.5%	11.0	6.0	-	6.5	6.0	-
7	20+37.5	12.5 RT	5.0	5.0	9.0	3.0%	6.5	6.0	-	14.0	6.0	-
9	20+64.0	45.7 RT	5.0	5.0	12.3	2.9%	6.5	6.0	-	11.0	6.0	-
13	20+99.3	12.3 LT	5.0	7.5	11.6	-0.2%	3.25	3.0	-	6.5	6.0	-
14	21+7.0	13.5 RT	5.0	7.5	14.2	-2.8%	11.0	6.0	-	3.25	3.0	-
19	24+17.2	26.1 LT	5.0	5.0	9.4	2.4%	6.5	6.0	-	11.0	4.0	-
20	24+32.3	28.8 RT	5.0	5.0	15.0	0.1%	3.25	4.0	-	6.5	6.0	-
26	29+48.6	25.5 LT	5.0	5.0	15.0	-5.9%	15.0	6.0	-	6.5	6.0	-
30	33+5.1	23.9 LT	5.0	5.0	12.9	0.2%	6.5	6.0	-	9.0	6.0	-
35	37+45.6	26.0 LT	5.0	5.0	11.0	-3.8%	15.0	6.0	-	6.5	6.0	-
38	41+14.2	32.7 RT	5.0	5.0	9.8	-0.9%	6.5	6.0	-	9.0	6.0	-
39	41+46.4	31.9 RT	5.0	5.0	9.7	3.3%	9.0	6.0	-	6.5	6.0	-



## PEDESTRIAN CURB RAMP - TYPE 6

					PEDE	ESTRIAN CUF	RB RAMP DATA	- TYPE 6				
RAMP		OFFSET	1	ANDING T)	W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE	
#	STATION	(FT)	WIDTH (Lw)	DEPTH (Ld)	/ <b></b> \	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
10	20+31.0	51.2 LT	5.0	5.0	10.0	3.1%	3.25	3.0	5.0	6.5	6.0	5.0



EDGE OF \

<sup>†</sup> LANDSCAPE AREA +

► PLAIN CEMENT CONCRETE

FOUNDATION

SECTION VIEW

DETECTABLE

WARNING PANEL

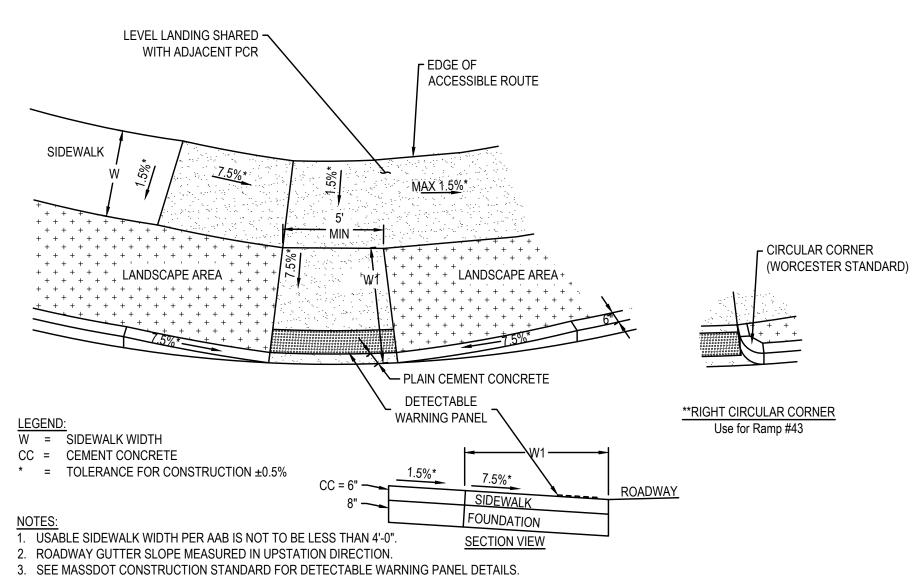
SIDEWALK

ACCESSIBLE ROUTE

# NOTES: 1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0". 2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION 3. SEE MASSDOT CONSTRUCTION FOR DETECTABLE WARNING PANEL DETAILS.

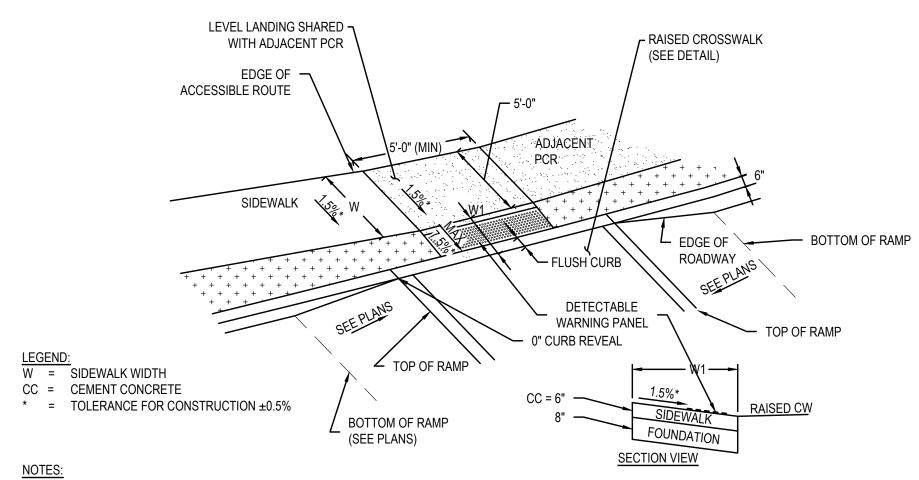
### PEDESTRIAN CURB RAMP - TYPE 8

		1			DESTRIA	IN CURB RAIV	IP DATA - RAIS 	ED LOCATI	IONS			
RAMP		OFFSET	LEVEL L (F		W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE	
#	STATION	(FT)	WIDTH (Lw)	DEPTH (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
21	24+48.5	19.4 LT	5.0	5.0	4.9	1.5%	N/A	4.0	5.0	N/A	6.0	MATCH EX
23	27+24.2	21.5 RT	5.0	5.0	6.8	-3.8%	N/A	6.0	MATCH EX	N/A	6.0	MATCH EX
24	28+99.1	17.8 LT	5.0	5.0	6.5	-1.5%	N/A	6.0	MATCH EX	N/A	6.0	MATCH EX
25	28+97.1	21.5 RT	5.0	5.0	6.0	-1.5%	N/A	6.0	MATCH EX	N/A	6.0	MATCH EX
28	30+1.9	21.5 RT	5.0	5.0	6.7	-6.2%	N/A	6.0	MATCH EX	N/A	6.0	MATCH EX
31	36+70.4	21.5 RT	5.0	5.0	6.5	1.2%	N/A	6.0	MATCH EX	N/A	6.0	5.0
36	39+52.2	17.7 LT	5.0	5.0	4.0	1.5%	N/A	6.0	MATCH EX	N/A	6.0	MATCH EX
37	39+51.6	23.3 RT	5.0	5.0	7.8	1.5%	N/A	6.0	MATCH EX	N/A	6.0	MATCH EX
40	43+73.5	21.5 RT	5.0	5.0	3.3	1.5%	N/A	6.0	MATCH EX	N/A	6.0	MATCH EX



### PEDESTRIAN CURB RAMP - TYPE 5 N.T.S.

					PEDE	STRIAN CUR	B RAMP DATA	- TYPE 5				
DAMD		OFFSET	LEVEL L (F	ANDING T)	W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE	
RAMP #	STATION	(FT)	WIDTH (Lw)	w) (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
5	20+21.9	42.0 LT	5.0	10.0	5.0	2.4%	6.5	6.0	5.0	3.25	3.0	5.0
32	37+04.7	13.4 LT	5.0	5.0	6.4	1.4%	6.5	6.0	5.0	3.25	3.0	5.0
43	44+44.0	36.0 RT	12.8	5.0	4.5	1.0%	7.7**	6.0	5.0	6.5**	6.0	5.0

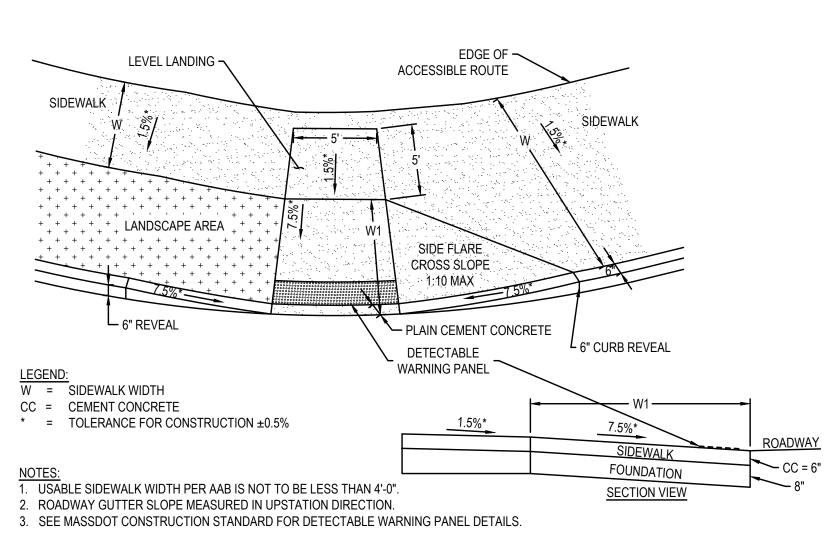


### NOTES: 1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0". A SABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".

2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION 3. SEE MASSDOT CONSTRUCTION FOR DETECTABLE WARNING PANEL DETAILS.

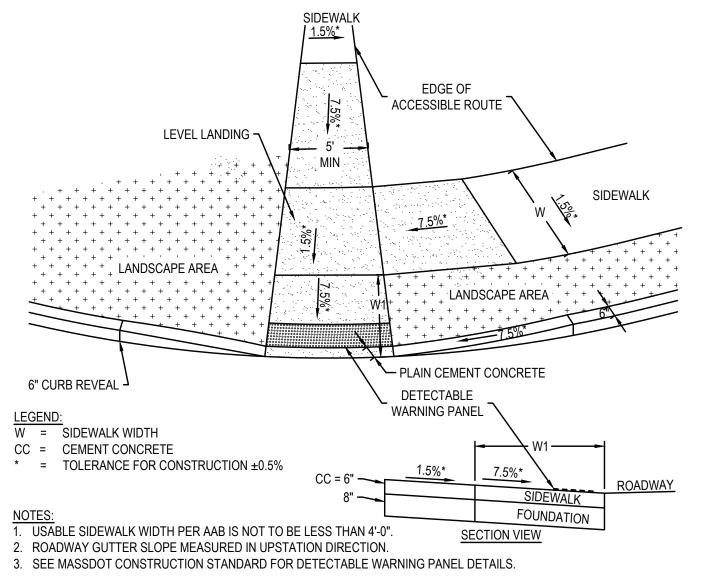
### PEDESTRIAN CURB RAMP - TYPE 7

_													
					PE	DESTRIA	N CURB RAM	IP DATA - RAIS	ED LOCAT	IONS			
	DAMD		OFFSET	LEVEL L (F	ANDING T)	W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE	
	RAMP 8	STATION	(FT)	WIDTH (Lw)	DEPTH (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
	22	24+48.3	21.7 RT	5.0	5.0	5.0	1.5%	N/A	6.0	5.0	N/A	4.0	5.0



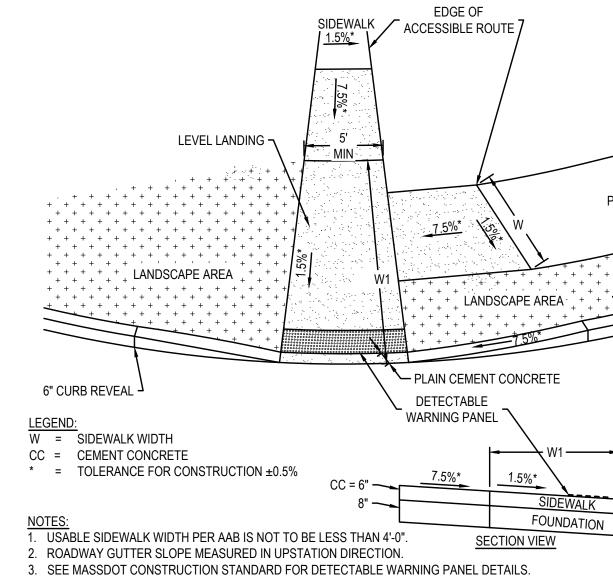
## PEDESTRIAN CURB RAMP - TYPE 10 N.T.S.

					PEDE	STRIAN CUR	B RAMP DATA	- TYPE 7				
DAMD		OFFSET	LEVEL L (F	Anding T)	W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE	
RAMP #	STATION	(FT)	WIDTH (Lw)	DEPTH (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
12	21+1.1	31.8 LT	5.0	5.0	8.0	3.2%	6.5	6.0	5.0	11.0	6.0	8.0



### PEDESTRIAN CURB RAMP - TYPE 11

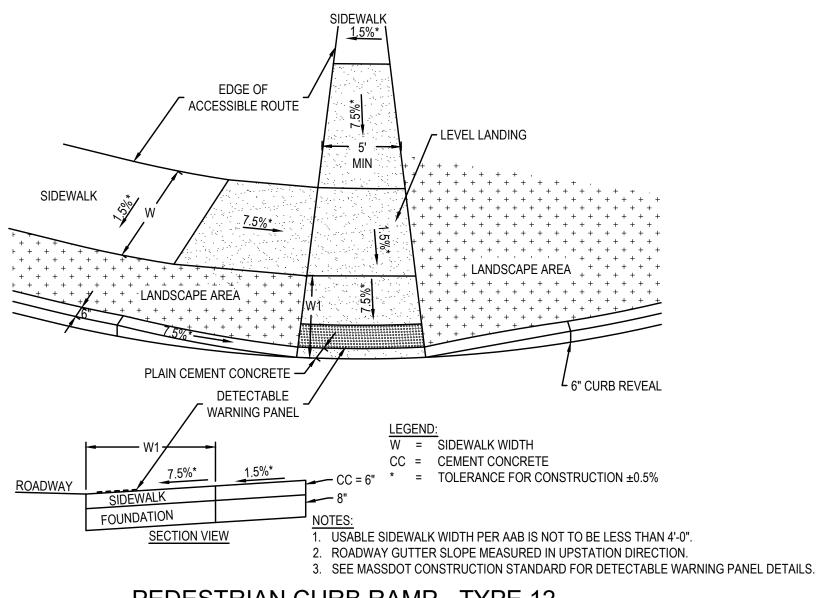
					PEDE	STRIAN CURI	B RAMP DATA -	- TYPE 11				
DAMD		OFFSET	LEVEL L (F	ANDING T)	W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE	
RAMP #	STATION	(FT)	WIDTH (Lw)	DEPTH (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
29	32+64.8	24.8 LT	5.0	5.0	10.8	-4.8%	15.0	6.0	-	6.5	6.0	5.0
42	44+36.7	21.3 RT	5.0	12.8	5.5	1.1%	6.5	6.0	-	6.5	6.0	5.0



PAVEMENT

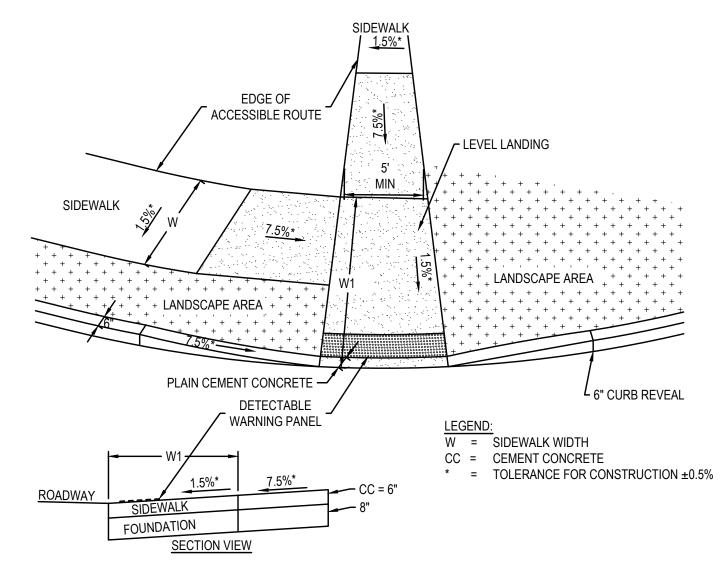
### PEDESTRIAN CURB RAMP - TYPE 14

					PEDE	STRIAN CUR	B RAMP DATA	- TYPE 9				
RAMP		OFFSET	LEVEL L	ANDING T)	W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE	
#	STATION	(FT)	WIDTH (Lw)	DEPTH (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
17	23+79.4	25.5 LT	5.0	8.3	8.3	1.9%	6.5	6.0	5.0	7.7	6.0	5.0



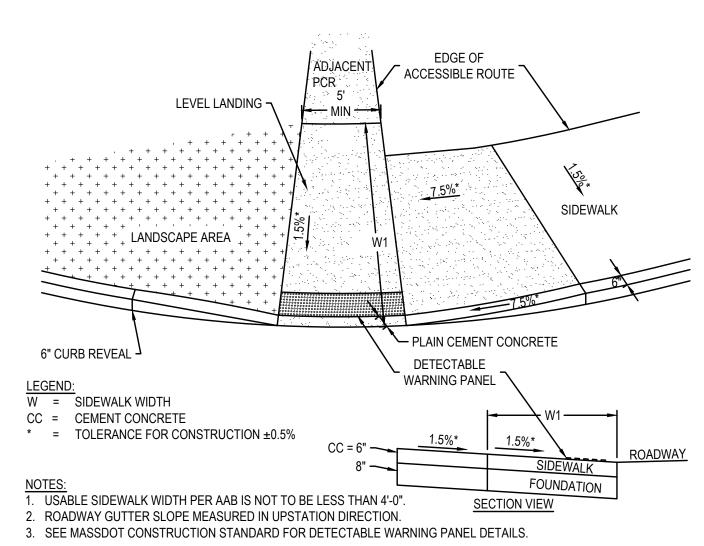
### PEDESTRIAN CURB RAMP - TYPE 12

					PEDES	STRIAN CURE	B RAMP DATA -	TYPE 10				
DAMD		OFFSET	LEVEL L (F	anding T)	W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE	
RAMP #	STATION	(FT)	WIDTH (Lw)	DEPTH (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
27	29+84.1	25.6 LT	5.0	5.0	10.0	-3.2%	6.5	6.0	5.0	15.0	6.0	-



### PEDESTRIAN CURB RAMP - TYPE 15

					PEDES	STRIAN CURE	3 RAMP DATA -	TYPE 13				
DAMD		OFFSET	LEVEL L (F	Anding T)	W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE	
RAMP #	STATION	(FT)	FFSET \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	
41	44+35.5	27.0 LT	5.0	10.6	10.6	1.1%	6.5	6.0	5.0	9.0	6.0	-



### PEDESTRIAN CURB RAMP - TYPE 13 N.T.S.

					PEDES	STRIAN CURI	B RAMP DATA -	TYPE 12				
DAMD	ISTATION I I		I	W1	ROADWAY	L	EFT SIDE		R	IGHT SIDE		
RAMP #	STATION	(FT)	WIDTH (Lw)	DEPTH (Ld)	(FT)	GUTTER SLOPE	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)	TRANSITION LENGTH (FT)	CURB REVEAL (IN)	SIDEWALK WIDTH (FT)
34	37+14.3	23.6 LT	5.0	11.0	11.0	11.1%	3.25	3.0	-	15.0	6.0	7.0